PERSONNEL MANAGEMENT
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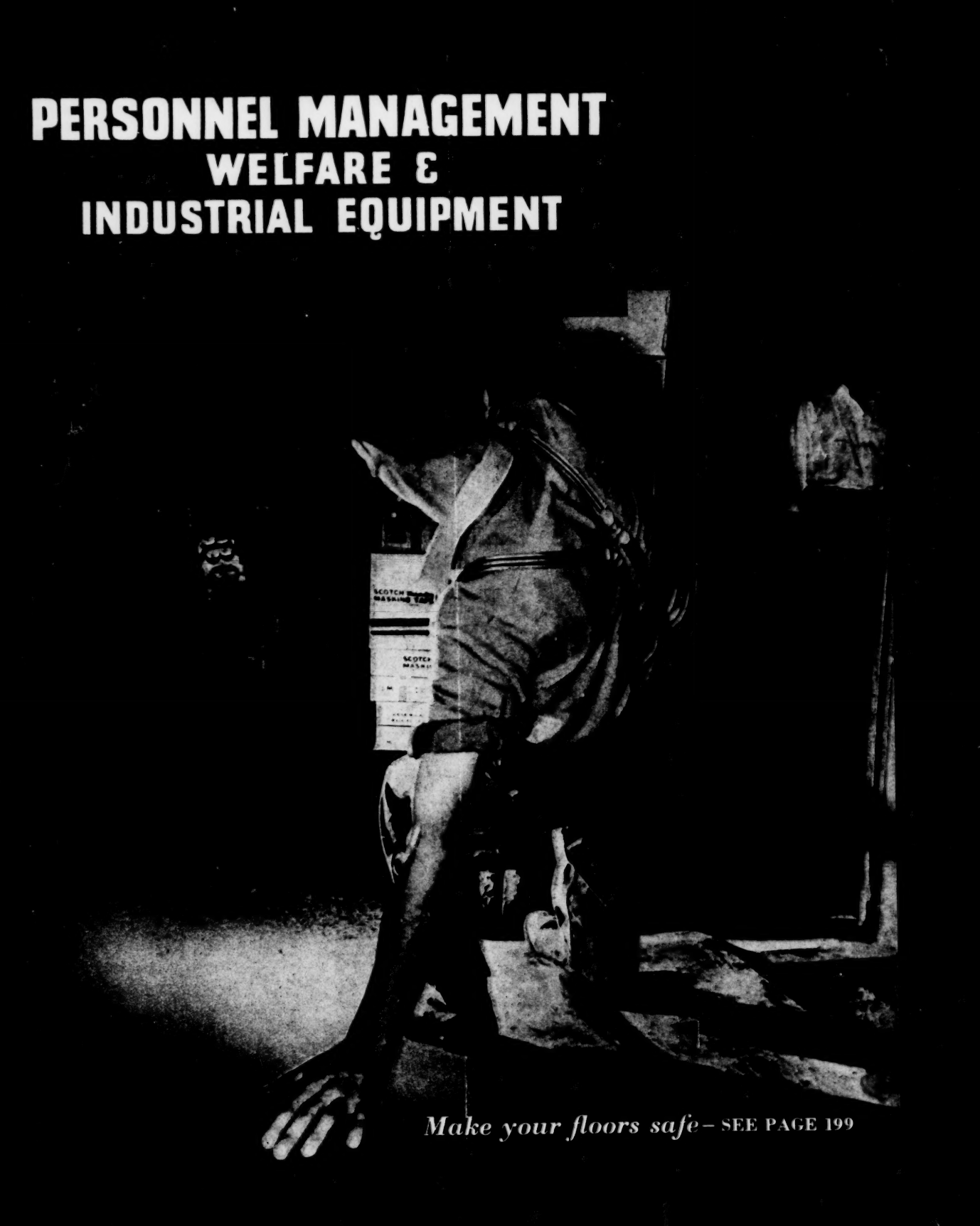

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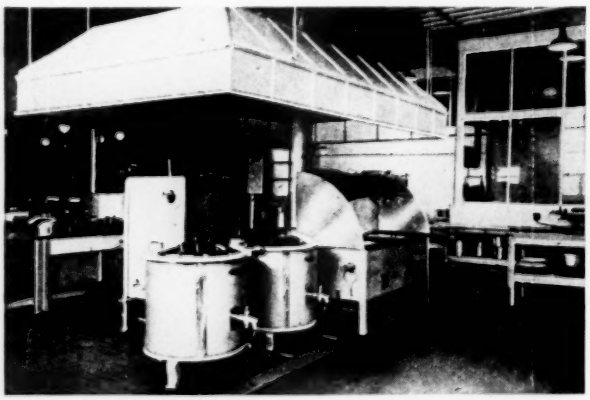

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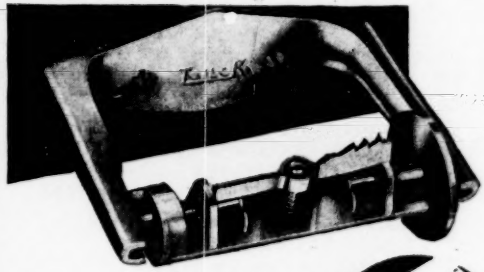

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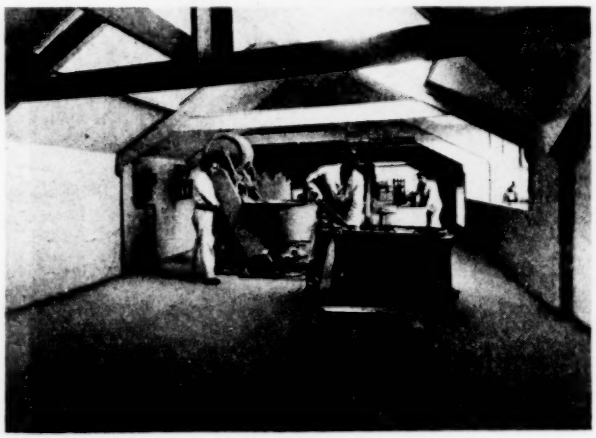

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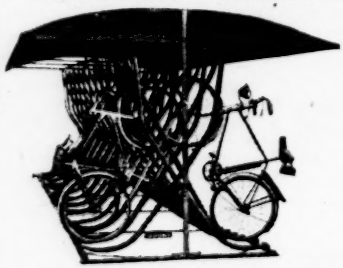

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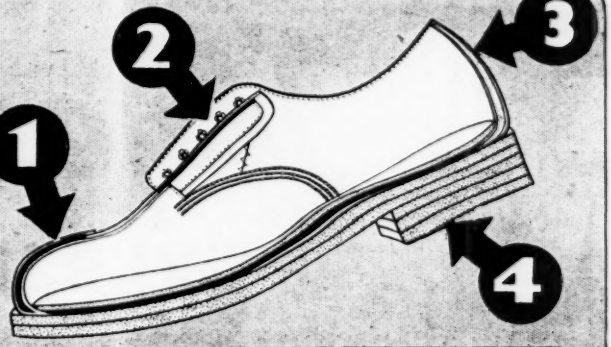

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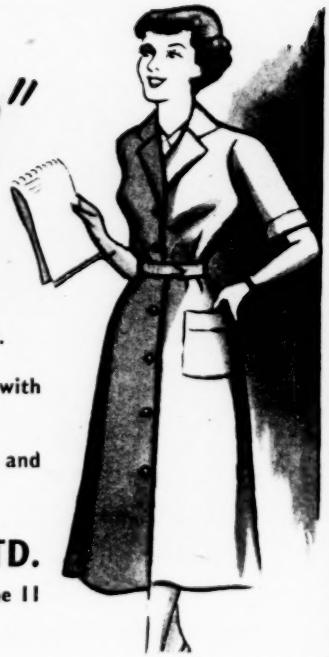

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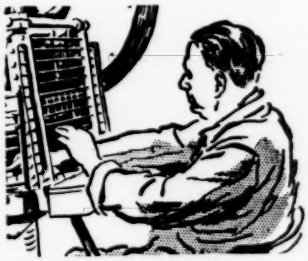

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PERSONNEL MANAGEMENT WELFARE AND INDUSTRIAL EQUIPMENT

INCORPORATING *Civil Defence Journal and A.R.P. & N.F.S. Review*

Vol. 18, No. 138 — NOVEMBER, 1951

CONTENTS

INDUSTRIAL EQUIPMENT AND MANAGEMENT

PRODUCTIVITY BEGINS ON THE SHOP FLOOR ... F. C. HARPER, Building Research Station, D.S.I.R. 199

EQUIPMENT THAT RAISES OUTPUT: Workshop ★ Handling ★ Canteen ★ Administration ★ Welfare ... 217

THIS DYE HELPS INSPECTORS ... M. LORANT 220

PERSONNEL MANAGEMENT

HARVARD COURSE FOR TOP MANAGEMENT ... J. D. O. KNOWLES, Administrative Director, T. Wall & Sons, Ltd. 201

BLUEPRINT FOR PROFIT-SHARING ... 203

WELFARE, TRAINING AND HEALTH

TRAINING FOREMEN BY FILMSTRIP ... 202

EMPLOYEES TAUGHT TO SERVE AND SELL ... PAUL NUGAT 206

CENTENARY CRUISE ... 213

SAFETY AND ACCIDENT PREVENTION—CIVIL DEFENCE

USE THE RIGHT PROTECTIVE CLOTHING ... JOHN SPENCE 207

C.D. PLANNING, 5—TRAINING SYLLABUSES ... JOHN O. BAKER, Civil Defence Officer, South-east Ports 212

CANTEENS AND CATERING

HOW WE TRAIN CANTEEN APPRENTICES ... K. T. SMITH, General Secretary, Vauxhall Motors Recreation Club 214

NEWS AND READERS' SERVICE

CURRENT PERSONNEL PRACTICE DIGEST ... 204

PERSONNEL NEWS BULLETIN ... 209

ADVANCE NEWS OF NEW FACTORIES, ETC. ... 213

SUMMARY OF OFFICIAL PUBLICATIONS ... 221

THE MONTH'S DATES ... 222

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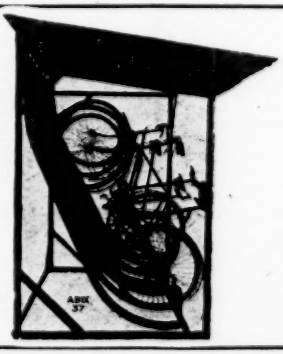

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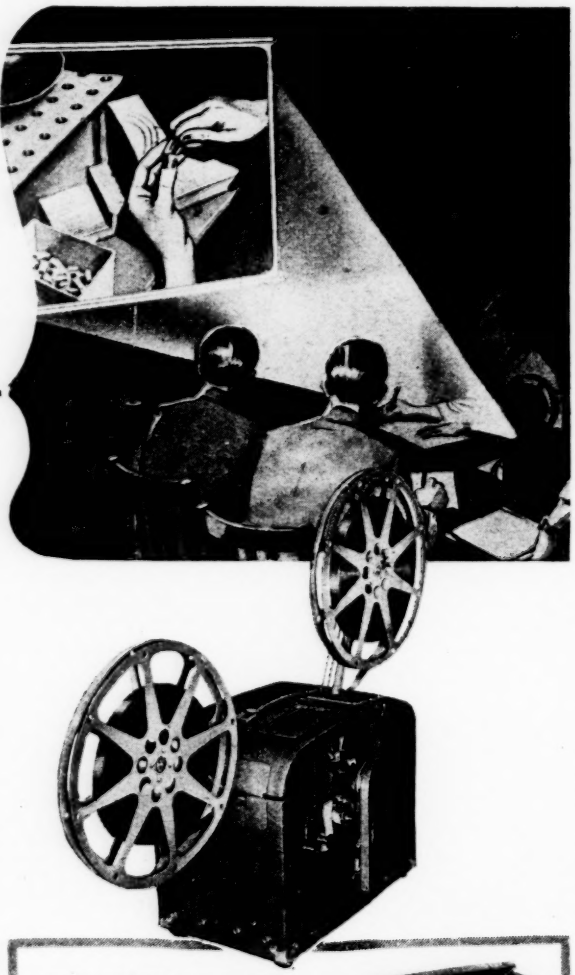

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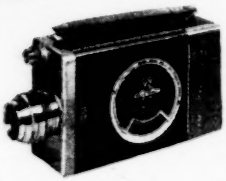

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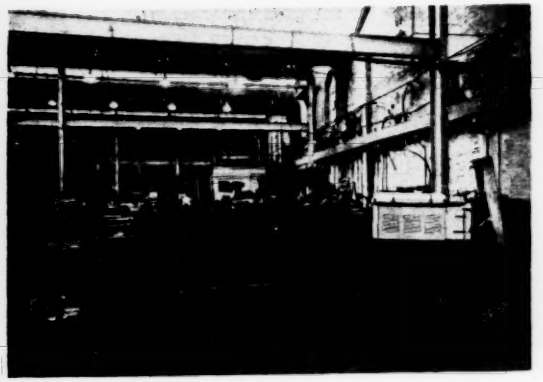
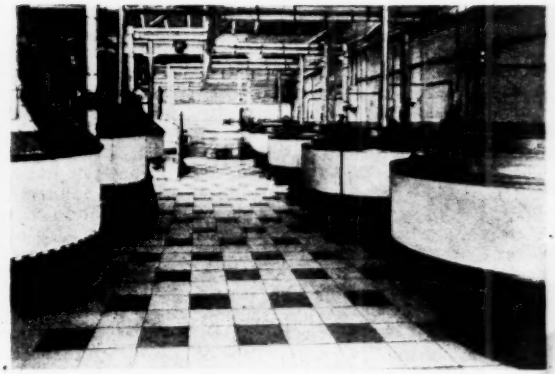




Productivity Begins on The Shop Floor

By F. C. HARPER, Ph.D.

Head of Flooring Section, Building Research Station, D.S.I.R.

Badly designed or ill-repaired floors can cause discomfort, fatigue and even accidents in the factory. Floors, therefore, have an important influence on output. Mr. Harper here describes the steps that should be taken to ensure that your employees have a safe and comfortable floor to work on.

NOWHERE in the structure of an industrial building do so many problems arise as from the floor finish. This is due, not to any lack of variety of finish, but to the many conflicting demands that are made of the finish. For efficient running of the process the floor should be sufficiently durable under traffic and the effluents of the plant to have a long life and at the same time should not add any risk of fire or explosion. It should also be such that it does not cause accidents to the workers and should be comfortable enough not to cause rapid tiring with consequent lowering of output and increasing accident risk.

Obviously durability and the safety of the whole plant are of primary importance and the floor finish is selected for its fitness to fulfil these requirements. If the floor is also able to meet the demands of personal safety and comfort, there is added inducement for it to be selected, but, unfortunately, most finishes that satisfy the durability requirements for industrial use do not have particularly good comfort characteristics. Safety and comfort have frequently to be acquired by careful design of the floor and by careful maintenance of the finish thereafter.

The durability of any particular type of floor finish in industrial use will be decided by the amount and character of the traffic, by the amount of cleaning and maintenance given and particularly by the type of product being made. Experience has shown that no generalisation can be made and the problems of selecting a durable floor finish are different for each industry. The factors that influence personal safety and comfort are, however, common to most industries and it is proposed to consider them in this article.

Assuming that a floor finish has been chosen for the factory process and conditions, the first efforts at accident prevention should be made at the design stage. Suitable planning and layout of the building and machinery may avoid heavy concentrations of foot and truck traffic, so reducing the amount of wear on the floor and allowing a better surface to be maintained. Traffic paths should be wide enough to allow free flow of traffic. Floor levels should be adjusted to avoid steps in the floor—a single step is a very common source of accidents. Ramps are better than steps but the slope of the ramp should be gentle to allow for easy manipulation of trucks. Sharp turns in the main traffic lanes should be avoided because it is at such points that people turn quickly and the risk of slipping is greatest.

Often the design of the floor is dictated by the process which is being carried out. Where there is much spillage of liquid, good drainage is essential and the floor is often laid to

Top, left: Concrete floor finished with bitumen compound. (Bruce Martyn Ltd.). Right: Terrazzo floor in a dry cleaning factory. (Great Metropolitan Flooring Co.).

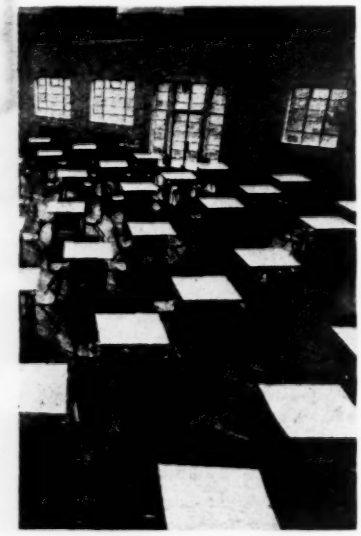
a fall that may be as much as 1 in 40. Such a slope introduces difficulties for workers, who find that the risk of slipping and the difficulty of pushing trucks are much greater than on a level floor. The difficulties can be overcome, or at least reduced, by directing traffic across rather than up and down the slope.

The risk of persons slipping on a floor is to some extent dependent on their familiarity with the surface; a floor that seems satisfactory to the person who uses it continuously may seem to be slippery to the person who has come from a less slippery floor. Because of this it is advisable, as far as possible, to use one type of floor throughout a shop; floors of widely different characteristics should be avoided otherwise accidents may occur when a person crosses from the less to the more slippery floor.

With the floor finish selected and the floor designed, accident prevention becomes a question of maintenance and good housekeeping. Slipperiness may be an inherent property of a floor finish itself, but more often it is caused by liquids spilt on the floor, by pieces of dirt or by the use of the wrong type of cleaners. Regular and efficient cleaning of the floor by materials that do not leave a slippery film is essential; the removal of oily patches is particularly important. Unevenness in the floor surface makes cleaning difficult, so worn patches should be repaired immediately. If this is not done, as well as becoming harbourages for dirt, worn areas soon develop into holes that can cause accidents either by people tripping or by the sudden stopping of trucks when they hit the hole.

The floor finish may also have an indirect influence on the accident rate by the fatigue it induces in the workers. This aspect is mentioned again later.

The principal qualities of a floor finish affecting the comfort of the user are warmth, noisiness, "tread" or "feel," and in an indirect way colour and brightness. No accepted standards for comfort have been established and it is very difficult to appreciate how all the factors combine to produce a reaction in any particular person. An example will show how difficult the problem can be. In a factory where there had been a considerable number of complaints about a cold floor, the floor was painted red. The complaints ceased though the floor was no warmer.



1 in. Muhimbi strip flooring in a London Transport canteen. (Vigers Bros. Ltd.).

Cold Floors

Available evidence shows that when people are well shod and the air temperature in the building is comfortable, there is little difference between the warmth of different floor finishes. When the air temperature is below the comfort level, some floors appear to be distinctly colder than others. Thus a method of removing the discomfort of a cold floor is to provide a higher air temperature. Much of the feeling of cold in the feet is due to draughts of cold air across the surface of the floor, rather than to any effect of the floor itself. Prevention of draughts will thus give the impression of a warmer floor. In addition to these two measures it is often advantageous, on ground floors, to insert an insulating layer between the floor finish and the structural floor. This cuts down the loss of heat through the floor and thus raises the temperature of the floor surface.

The amount of noise resulting from traffic and impact on a floor finish is always of some importance but, under most industrial conditions, it is small compared with other sources of noise. Before attempting to make the floor less noisy it is more profitable to reduce other noises at their source and to reduce reverberation within the building.

It is difficult to define the property known as "tread" or "feel," but it is of some importance in its effect on "tired feet." It is often assumed that the floors common in industrial buildings are tiring to the feet simply because they are hard, and a softer floor would remove all the troubles. This may be so, but waitresses complain of the same feeling of tiredness after walking on carpets for some time. It is probable that the type of work influences the feeling of tiredness. For the person who is standing in one place or who moves by shuffling around in a small area, a resilient floor seems to be necessary and preferably one that does not make overall contact with the feet. For this reason the duckboard is popular; it is resilient and it varies the area of contact with the foot. For continual walking a floor finish is needed with less "give" than carpet, yet without unyielding hardness of the concrete floor.

The colour of the floor may well influence all these factors in the mind of the individual. Usually factory floors are dull grey or red, and only recently has any attempt been made to introduce bright colours. This has been done chiefly to increase the overall brightness and lighting by giving a greater reflection from the floor, but the bright colours will have an effect on comfort. A light-coloured floor is also of value in promoting clean conditions and may well indirectly reduce accidents by slipping.

There is a wide variety of materials available for use in industrial buildings. Each of them has one or more characteristics that make it suitable for such use, but it must be accepted that there is no floor finish that is ideal in all its properties. The selection of a suitable finish must be based on a balance between the suitable and the unsuitable properties for a particular situation. In National Building Studies Special Report, No. 11, "Floor Finishes for Industrial Buildings" (H.M.S.O. 1s. 6d.) the various industrial floor finishes are tabulated with their properties.

COVER PICTURE

(Courtesy of Minnesota Mining & Mfg. Co. Ltd.)

Effect of floor finishes upon accidents may be considerable. Among flooring dangers are slipperiness, uneven wear, pot-holing, indentation, splintering of surface, cracking or lifting, *bad design of steps or ramps*, and materials which may cause fire or explosion.

This Course Helps Top Management to do a Better Job

By J. D. O. KNOWLES, *Administrative Director, T. Wall & Son, Ltd.*

Mr. Knowles has recently completed a 13½ weeks' course in advanced business management at the Harvard School of Business Administration associated with Harvard University, Massachusetts. He was the only British businessman among the 140 senior managers attending the course.

THE Harvard course is designed to broaden the outlook of managers and to develop their sense of social responsibility. One would be a very unimaginative type if one failed to come away a more complete person—*and a better businessman*.

During the thirteen weeks, all, irrespective of age or rank, lived in college. We were split into groups, each consisting of eight men of roughly the same age and representing a good cross-section of industry and commerce. My own group included the director of a research laboratory; an industrial engineer from a large textile concern; the vice-president in charge of personnel of an insurance group; the vice-president of a general utility company; the general manager in charge of the field force of an oil company; and the overseas commercial manager of an export house.

The case history method of teaching was employed throughout. At the end of every day, each man was given a loose-leaf case dealing with a certain problem. A bibliography was attached, so that further research was simplified. Each of us considered the case history overnight and it was discussed in open debate in class next morning. The professor in charge of the particular subject acted in effect as chairman of the debate, the idea being to draw on the experience of the students rather than to pour a lot of theoretical knowledge upon them.

No questions were asked about, and no answers were given to any of the problems under review. Students were expected to take part in the discussions if they had something to contribute, and it was left to them to form their own conclusions. I was never deliberately called upon to speak, but whenever I felt I had something useful to say I merely put up my hand in the best schoolroom tradition and was then called upon by the professor.

Subjects studied were grouped under six headings: Human relations; labour relations; finance; business policy; business and the American society; and marketing. No attempt was made to teach details. Harvard is trying to inculcate a new philosophy of business and, through that, of life itself. The professors' object was to show how the actions of businessmen, though intended to be purely local, may well have far-reaching repercussions throughout a nation, and, perhaps, the world. Business, they believe, is one of the strongest forces for good or evil of our time.

Typing Pool? No!

A typical case history concerned a firm moving their head offices to new premises. A young administrative director had come to the conclusion that the system whereby each man had his own secretary wasted time, because the girls were often left idle. He therefore decided that in the new premises all secretaries would be merged into a typing pool. After this system had been inaugurated, the director was extremely surprised to find that many secretaries at once resigned and also that the whole management and executive group became unhappy and disgruntled. He had completely overlooked the human element in his —theoretically—excellent decision; secretaries like to feel that they are responsible to one executive, and that they are not mere machines to be called upon at need like the typewriters themselves. Managers, likewise, appreciate the personal co-operation of one secretary and dislike working with a girl whom they may not see again for weeks or even months.

Shock Therapy

As I have said, we were at no time concerned with details. In the finance course, for instance, no attempt was made to turn us into accountants—we were merely shown that figures can be a tremendous aid to management. The picture was drawn of figures circulating throughout an organisation and we were shown where, so to say, the warning lights might be put to give the alarm to executives should anything go wrong—the theory being that the executive could depend on these warning lights and then call upon his accountants to tell him why the lights were shining.

In any large group of senior business executives there is bound to be a certain tendency to resent the fact that they have been asked to go back to school. Therefore Harvard thought fit to apply what I would call shock-therapy to stir some of the students out of their feeling of resentment or complacency. This was applied in the series of discussions masquerading under the apparently innocent title "Business and the American Society." Here, higher economics, religion and many funda-

mental truths were examined. Technique was to take a fundamental truth and proceed to attack its validity.

A good example is the Malthusian Law—survival of the fittest. Why not allow it to operate? Is it really beneficial to have national assistance, free hospitals and lunatic asylums, and so on? Would it not be wiser to allow the weakest to go to the wall and so, in the course of time, produce a more robust nation and a healthier society? This led to spirited discussion on the merits and demerits of euthanasia.

Naturally, with a large group of men of all religious denominations and representing most schools of thought, debates like this produce an immediate and very violent reaction. The students begin to question fundamental truths that have been drummed into them from childhood. Extremely fiery and exciting debates result and everyone is shaken up into a satisfactory state of mental alertness.

Eminent Speakers

The morning having been devoted to work in the classroom, two afternoons each week were given to speakers who came to Harvard to talk to us on matters of public interest. They were all eminent men in their own spheres. One speaker, for instance, was Nelson Rockefeller, chairman of the International Development Advisory Board. One afternoon each week was set aside for visits to factories in New England. In addition, we had the opportunity of taking certain voluntary seminars, as, for example, a course of public speaking.

As the only Englishman on the course, I found the experience particularly valuable. It was invigorating to live for three months with a select group of Americans. America today is one of the most exciting countries in which to live because she has the mantle of world leadership on her shoulders. Some Americans resent this and are bewildered by the situation; yet I was struck by the enormous confidence of the majority in their ability to dominate any situation which might arise. This national self-confidence springs from the colossal sources of raw material and vast skilled labour force upon which they can draw. The rate of productivity achieved by their technological skill is astounding.

Training Foremen by Filmstrip

Novel I.W.S. Service

MORE than 50 firms are now training their supervisors, actual and potential, in human relations with the aid of the sound filmstrips issued by the Industrial Welfare Society. Each strip tells a story based on an actual case history, and is accompanied by a gramophone record commentary explaining the situation revealed in the pictures. Incorporated in the record is a sound signal which tells the operator when to change the picture.

The purpose of the series of filmstrips already produced is to present, to men and women under training in industry, "controlled situations so devised as to confront them with typical problems in human relationships likely to occur in their day-to-day tasks." Later strips will deal with problems encountered in the retail trade and in offices.

Illustrated here are scenes from one of the strips, "Good Manners Matter." Others are concerned with: discipline and bad timekeeping; the reaction of a team of girls to the transfer of one member; the dilemma of a foreman who is bypassed by the works consultative committee; what happens when an attractive girl clerk is brought into a department staffed by men; and the trouble caused by a newly-appointed chargehand who tries to tighten discipline.

Each story poses a question, to which no set answer is given. The idea is that the group under training should discuss the problem, and find their own solution.

The strips may be bought or hired from the Society at 48 Bryanston Square, London, W.1. Prices:

For Sale: To members and educational organisations £2 2s. 0d. per set; non-members £3 3s. 0d. per set.

A set comprises one filmstrip and one recorded case study with narrative and list of questions.

For Hire: To members and educational organisations 10s. 6d. per set per week; non-members 15s. 0d. per set per week.

1. Works manager ticks off foreman for the number of rejects coming from department. Manager says checkers at fault, ignores foreman's complaint of bad material.

2. Foreman, amazed, returns to department and finds senior checker gossiping with girls. Reprimands her in front of department.

3. Checker asks foreman to step outside and apologise in front of other girls. Foreman refuses. Checker gives notice.

4. Foreman thinks this over as two other checkers walk in to give notice in sympathy.

Blueprint for Profit-sharing

What is the true function of profit-sharing? Is it not, as the author of a recently published book has stated, "the promotion of happier relations between employer and employee by giving to the worker that sense of 'belonging' which he so sadly lacks in the majority of industrial plants"? Here, in some detail, is how one firm share their profits with their employees—to the benefit of both.

THE name of Portals is known throughout the world for the manufacture of bank-note paper. In order to avoid forgery it is necessary to use a very high grade paper of a kind suitable to receive a watermark. In the manufacture of such paper, under conditions of strict security, Portals have specialized for 247 years.

The first Portal came as a Huguenot refugee from France at the beginning of the 18th century and founded the very mill which still stands near Whitchurch, Hampshire, but which has now become a residence. From 1724 onwards, the Portal mill manufactured paper for Bank of England notes and has continued to do so ever since. Today they also manufacture paper for the bank-notes issued by over sixty different governments and banks of issue throughout the world.

With such a long tradition of "making money," it is perhaps fitting that the men and women so employed should have an opportunity of making money for themselves. The directors have provided such an opportunity by the institution of a profit-sharing scheme, whereby the sum of approximately £18,000 was distributed to employees in 1950.

The scheme is run by three trustees, one of whom is appointed by the directors and one by the employees, the third being an independent member. Each year Portals Ltd. pay over an agreed sum to the trustees for distribution to employees in accordance with their nominal basic wages or salaries for the year under review.

The amount of bonus paid over to the trustees is calculated on the *total* of the two following scales:

(a) An amount varying in accordance with the dividend distributed on the issued ordinary share capital in respect of the profits of the year under review. The scale is as follows:

Ordinary dividend before deduction of income tax.	*Amount to be paid to trustees.*
	£
Less than 6%	Nil
6.01% to 7%	1,000
7.01% to 8%	2,000
8.01% to 9%	3,000
9.01% to 10%	4,500
10.01% to 11%	6,000
11.01% to 12%	7,500
12.01% to 13%	9,000

Over 13%. An additional £2,000 for every 1% over 13% dividend.

(b) An amount varying in accordance with the audited profits of the group before taxation, dividends and transfers to reserve, and before charging all distributions under this scheme. The scale is as follows:

Profits as defined.	*Amount to be paid to trustees.*
	£
Less than £240,000	Nil
£240,000 to £280,000	2,000
£280,001 to £320,000	4,000
£320,001 to £360,000	6,000
£360,001 to £400,000	9,000

£400,001 and over. An additional £4,000 for every additional £40,000 of profit.

Any employee who has worked with Portals Ltd. or one of its associated companies from the first day of the year in respect of which bonus is declared until the date on which the annual general meeting is held, is eligible for a share in the profits. (Part-time employees and pensioners are excluded.) The present full-time directors, although eligible, have waived all their rights to any share of the profits distributed under this scheme.

Each employee receives a proportion of the profits in accordance with his nominal basic wage or salary, calculated as follows:

(i) In the case of an employee paid at an hourly rate, his nominal basic wage will be the total amount he would have earned during the year if he had been in the grade or class he was in on December 31, and had worked the standard number of hours each week for fifty-two weeks during the year.

(ii) In the case of piece-workers, their nominal basic wage will be calculated as in (i) above, except that the hourly rate will be increased by 25 per cent.

(iii) In the case of salaried workers, their nominal basic salary will be the salary received during the year, less overtime, if any.

(iv) In the case of an employee having served continuously with any of the aforementioned companies for more than five years, his nominal basic wage or salary will be increased for the purpose of this scheme by 1 per cent for every year's service in excess of five years.

The agreed sum paid to the trus-

(*Continued on page 208.*)

Five Point Share Scheme

1. **Run by three trustees.**
2. **Annual sum paid to trustees for purchase of shares for distribution.**
3. **This sum based on dividend and profit scales.**
4. **"Dividend" bonus paid to employees in shares, "profits" bonus in cash.**
5. **Employees wishing to sell shares must offer them to trustees.**

Bonus Plan Solves Labour Problem

TWO-FOLD purpose of a payment by results scheme, introduced by K and L Steelfounders and Engineers Ltd., Letchworth, for office staff was: First, to attract women workers in an area where there is much competition for their services; and to make overtime attractive when it became necessary. Application of the scheme was limited to some dozen girls in the typing pool and three in the punched card department.

These women are paid day rate based on age and merit, plus a bonus based on the amount of work they can do over and above the quantity expected in a given time. This quantity is defined in standard minute values—the result of work study—for each operation. Standard minute values cover all principal and auxiliary operations, and in addition there are a number of safeguards and provisions. All work not set out in the specification is considered as day work, and day work rates are also paid if, for reasons beyond her control, an operator is kept waiting more than five minutes.

The number of minutes by which the standard minutes exceed the time taken are paid at the operator's bonus rate, i.e., 1s. per hour for adults, 8d. for those under 21. Bonus is calculated weekly and paid the following week. Amounts vary between 10s. and 25s. a week.

Each operator records her own details of work done, delays and waiting time on a sheet checked by the supervisor. Time spent delivering mail, collecting stationery, etc., is recorded under "delays." All values include 12½ per cent on basic times to allow for rest and contingencies. An allowance of five seconds per piece of work is given to compensate for time spent fetching new work. Ten minutes is also allowed each day for cleaning machines and tidying up. Standard minute value for this work is 30 min. a day. Effect of the scheme is to pay for good performance more directly than is possible on a flat weekly wage basis.

(Condensed from *Business*, October.)

Salary v. Commission

BEFORE World War II, A. Schilling and Co., U.S.A., paid 80 per cent of their salesmen on a commission basis. Today only 20 per cent are on commission and 80 per cent on straight salary.

The change-over arose during the war when scarcity of goods made it difficult for a salesman to sell day in and day out, and on a commission basis earnings proved unstable. After the war, it was impractical to return the majority of salesmen to commission, and to add new men on that basis.

Schillings found that the men did not want it. Attitudes of young men seeking employment had undergone a change. Many of them came to their first job with family or other responsibilities, and they wanted an assured income. On average, it was found that they were less willing than pre-war salesmen to invest initial effort in developing the job. They had less sense of responsibility towards the job and expected more of it. Further, they compared the high wages and relative stability of other workers with their own lot, and felt they should do at least as well.

How to give salesmen on a straight salary an incentive? Schillings solved the problem by giving wage increases only on merit. A record of each man's performance is kept, and these are reviewed every 90 days by an executive sales committee. Salary increases and promotions are then decided upon. For 15 years all executive posts have been filled from within the company. All salesmen, whether on salary or commission, receive an annual bonus based on profits. The company find that the men like this method, and they themselves are satisfied that business is being maintained at a high level.

"Never before in industry have a father and son completed 126 years of joint service with one company." That was the proud claim of Mr. Bernard C. Westall, chairman of Thomas De La Rue and Co. Ltd., when at a luncheon in London recently, he welcomed Mr. Harry Adkins, Jr., to the Delarunarian Club, members of which have all completed 50 or more years in the company's employ. With Mr. Adkins (right) who is 64 and a machine minder in the security printing department, was his 89-year-old father, Mr. Harry Adkins, Sr. (left) oldest member of the club and still working in the company's security paper store.

Farmer Shares Profits

LOSELY PARK is an estate of 2,000 acres, of which 280 are farmed. It comprises an arable farm, a herd of pedigree Jerseys, a market garden and extensive woodlands. A profit-sharing scheme combined with joint consultation, introduced by Major J. R. More-Molyneux, has resulted in a better spirit, greater keenness and better work.

Essence of the scheme is the joint production committee, on which heads of departments—i.e., head herdsman, woodsman, gardener, mechanic—sit *ex officio*, together with three representatives elected by the farmworkers. The committee meets once every three weeks to discuss general policy and the work programme for the following three weeks. The committee is an advisory one, since responsibility for management and all risks lies with Major More-Molyneux, who has the right of veto on all committee decisions.

Every employee who has served for twelve months receives one share of bonus if over 21; three-quarters of a share if under 21. Thus everyone receives an equal amount of bonus regardless of wages. In arriving at the amount on which bonus is calculated, all sales from production are credited and all expenses except interest on capital, depreciation and maintenance are debited. The reason is that it was

felt that the men might disagree with the purchase of new machinery if they thought its initial cost and depreciation were to be deducted from the amount available for bonus. Also, by not taking these three items into account, there should always be a surplus available for bonus in any normal year. If these items were taken into account, there might be a loss on the year's workings, but bonus would still be paid. While it may seem of doubtful economic benefit to pay bonus in a year when a loss is made, it is felt that the extra keenness shown by the workers would justify such a contingency should it arise.

(Condensed from *Co-Partnership*, September.)

Tell the Office Girls

LACK of information on the company's products is often responsible for a lack of enthusiasm among the employees making them, and more especially among the office staff.

Bendix experimented by inviting the office staff to a demonstration of their washing machines. Over 100 of the 120 employees accepted. Many of the girls were themselves users of Bendix machines, and were eager to ask questions about wash day procedures. The demonstrators were able to show the girls methods of washing clothes which were a revelation to many of them.

Bendix believe that if you can answer the questions of your office girls about your products, you are well set to answer questions from potential customers.

(Condensed from *Sales Management*, June 15.)

Ideas Bank

EYE APPEAL—Dilapidated canteen trays can spoil the appeal of the most attractive looking lunch. Armstrong Cork Co., Lancaster, U.S.A., solved this problem—and found a useful propaganda medium—by supplying cheap paper tray cloths printed with messages from the company.

Attendance Incentive—One way of cashing in on extra interest aroused by works contests has been devised by the Seneca Falls (N.Y.) plant of Sylvania Electric Products Inc., who make it a condition of every contest that no one is eligible for a prize unless they have completed a week's perfect attendance. Results showed a drop of 27 per cent in absenteeism during a recent five week's contest for the reduction of waste.

Suggestion Scheme Boost—Few things are more commonly used than rulers, pencils, blotters, and calendars, so the radio division of Bendix Aviation Corporation, Baltimore, use them to advertise their suggestions scheme to employees.

(Condensed from *Factory Management and Maintenance*, September.)

These Brook Motors Ltd. apprentices won special prizes—books or drawing instruments—from their firm for outstanding work during the past year. Left to right: Donald McCracken (jig and gauge dept.); John M. Binks (control drawing office); and 16-year-old Kenneth Leach.

News from House Magazines

Potential Executives

A new school, the third of its kind in the Richard Thomas and Baldwins Ltd., organisation, was opened recently in Landore. The West Wales Section Apprentice School will have an intake of 20 to 25 new recruits each year, some of whom, it is hoped, will be future executives. Half the number are nominated by management and half by the unions. **(Ingot News.)**

Committees Cut Accidents

In the first six months of 1951 accidents at Vauxhall Motors Ltd., were reduced from 136 to 117 despite problems arising from major replanning of factory. Major contribution was the work of accident prevention committees, particularly where regular tours of inspection had been undertaken. **(Vauxhall Mirror.)**

New Check on T.B.

Oldham and Son Ltd., became the first British firm to adopt the tuberculin skin test as a routine preventive check when in June last, all employees under 25—the "danger group"—were asked to consent to take it. The test is simple. A spot of jelly is smeared on the arm, the skin reaction indicating whether the patient has natural resistance to T.B. or not. It is repeated every three months until resistance is acquired. The test also shows whether the infection has attacked the body, and suspects can be kept under observation by the M.O. Many Swedish factories have used this test, and it has been used in British hospitals and universities. **(Power to Spare.)**

Open Doors Cost Money

It will cost £32,400 to keep all the engineering shops and foundry of Newton Chambers and Co. Ltd., comfortably warm during working hours between November and May. Employees are reminded that a door left open at night might cost 10s. a minute in warming up the shop again. To leave doors open on these terms is like "pouring liquid gold into leaking buckets." **(Thorncliffe News.)**

Line of Loyalty

Four hundred years of faithful service to the Clayton Aniline Co. Ltd., is the record of the Lomas family. John Lomas, foreman, joined in 1880; latest recruit is Miss E. Lomas, who started work in the dyehouse in 1950. They share the honours with a lengthy list of long-service employees in the 75th anniversary edition of the journal. **(C.A.C. Quarterly.)**

New Secretary for I.S.O.S.

MR. T. WHITTAKER has been appointed secretary of the Industrial Safety Officers' Section of Ro.S.P.A. Address, 52 Grosvenor Gardens, London, S.W.1. Mr. H. J. Jukes is continuing as assistant secretary and to deal with all membership matters.

Training Employees to *Serve* as well as Sell

How to improve salesmanship at the point-of-sale? Since the last war, standards have fallen in most trades, and that extra effort (or "service with a smile") which paves the way to bigger sales has all too often been missing. Nowhere is such service more important than on the forecourt of a petrol filling station, and this new Shell-Mex course is designed to equip garage attendants to do a really thorough selling job.

By PAUL NUGAT

Top: Learning the new seven-point forecourt service. Bottom: Class under instruction on specialised lubrication technique.

IT is a little odd that, having gone to the great expense of finding oil, refining and tankering oil, developing a host of by-products from oil, and distributing oil to petrol stations and garages, Britain's oil companies have in the main left the final act of selling it to the consumer to independent commercial firms. This act of divorcement has not always operated in the consumer's favour. Standards of salesmanship and service at our petrol stations often compare unfavourably with those of America and many European countries. Rival oil companies have been aware of this unsatisfactory state of affairs for some time, and at the beginning of 1951 went into action.

One of them, Shell-Mex and B.P. Ltd., have organised four training centres at Bristol, Glasgow, Blackpool and London. They provide a four-day course, with a syllabus of work so considerate to the students that one realises that very careful reasoning has been brought to bear on its compilation.

In the first place, it is unusual for one commercial enterprise to lay out a training scheme specifically for the benefit of the employees and employer of another firm, even though that firm may be complementary to one's own commercial activities. It was, of course, appreciated by Shell-Mex and B.P. that the majority of garage proprietors would possess sufficient business acumen to see that courtesy and greater efficiency in handling motorists would build up a garage's good-will and increase profits. But the same incentives do not apply to the garage foreman and the old hands. They would have to be convinced that the *new methods* would be an improvement on the old and would elevate their status of petrol pump attendants to that of salesmen.

Important Cog

Psychologically, Shell-Mex and B.P. started the course off on the right footing by making the Glendower Hotel in South Kensington the residential headquarters of their London training centre. In this comfortable hotel, with all charges paid and a gift of £2 10s. to cover any incidental expenses the student might care to incur, it would be difficult for even the most cynical opponent of new-fangled ideas to resist the impression that he is perhaps a more important cog in the new scheme of things than he had given himself credit for.

As for the syllabus, it is a blend of theory, in the shape of talks, films, and filmstrips, and practical demonstrations on a dummy forecourt or petrol point down at the Shell-Mex and B.P. depot at Fulham. A seven-point forecourt service has been worked out. This begins with an affable greeting to the motorist who has pulled in for petrol. The garage hand will no longer content himself with just supplying the gallons requested. After this training, he will ask the driver's permission to check the water level and oil. He will wipe his windscreen, check his lights and tyres, top up his battery, and generally look for any defects and deficiencies. Moreover, he will proceed to do all this in a systematic fashion, and will do none of these things if the motorist is in

an obvious hurry or patently discouraging. To an experienced garage hand, none of these things are in themselves new. On request he has performed these small services many times. But until now, he has not been taught to think of them as the norm of garage service, nor has he been taught to think of them as a simple drill that two garage hands working together, can complete in under three minutes.

The manner in which forecourt service is performed is receiving the same attention on this course as the method. Leaning on the window frame to talk to the driver, leaving finger marks on the bonnet, spilling the radiator water, splashing petrol over the rear wheel or on the forecourt, and letting oil from the dip stick drip on the engine will in future be the signs of a badly-run garage.

Follow-up Letter

One section of the course is devoted to motor lubricants and maintenance service. From the Shell-Mex and B.P. point of view, it is here that garages can make their customers "Shellubrication" conscious. Also from the road safety angle, it is very desirable that motorists should garage their cars for regular maintenance on completing a certain mileage. To this end, Shell-Mex and B.P. are not only issuing record service books but a "personalised print letter," which will be sent out twice yearly as a reminder to every "Shellubrication" customer, whose name and address is supplied to the company by a garage.

The course is indeed a training in salesmanship, and none of the instructors pretend otherwise. To the students, the course is not merely four days spent in pleasant surroundings and a friendly atmosphere (with free theatre shows nightly); it convinces them that they are more than just vendors of pool petrol. For they have learnt to give good service . . with a smile.

Electronic Filmstrip

BROOK Motors Ltd. have produced a 35 mm. filmstrip showing how the science of electronics has been applied to improve quality and production in electric motor manufacture. It deals with the use of the thermionic valve, the cathode ray tube and the photo electric cell.

Make Sure Your Employees Have The *Right* Protective Clothing

By JOHN SPENCE

Since the beginning of the last war, great strides have been made in the development of protective clothing for factory workers. Industry should take advantage of these improvements, and discard outmoded patterns.

THE wrong type of protective clothing is both useless and expensive. The nature of the garment and the work must be considered jointly. In recent years, nylon, plastic, and specially woven fabrics have been offered in place of cotton, wool and rubber. These newer materials possess certain advantages, but their limitations should also be realised. Plastic garments are lighter, stronger (weight for weight), and more thought and care appear to have been given to their design; but they are frequently used for work for which they are unsuitable. A plastic boiler-suit offers excellent protection for emergency work on acid and alkali jobs, but because it is impossible for the material to "breathe," the garment becomes soaked in perspiration on the inside and very hot. Plastic and rubber aprons and similar articles of protective clothing are excellent even when worn for long periods, but closed garments must be eschewed.

Plastic gloves are one of the few protective devices which have proved most successful for very different types of work. The initial cost is fairly high but this is justified by their length of life.

Nylon industrial garments are already in use. They are very hard-wearing, easily cleaned, hygienic but expensive. For use on alkali work they are excellent; nylon is virtually unaffected by concentrated alkalis. In the fine chemical, pharmaceutical, and photographic industries, where fluff can be detrimental to the product, nylon garments are invaluable. The price of one of these boiler-suits is about £4 to £4 10s. plus purchase tax.

Terylene, one of the newest synthetic fabrics, is becoming available in very limited quantity and may eventually prove of value to the chemical industry, as it has good acid-resisting qualities. Like nylon, it breathes, and is thus comfortable when worn for long periods.

Specially woven fabrics now include fireproof boiler-suits, the cotton of which is treated before weaving and so retains its fireproof qualities throughout the garments' life. They do not require any very special treatment when laundering, and they comply with the B.S.S. for fireproof garments.

Ventile Fabrics

Ventile fabrics offer great possibilities for industrial use. They were almost unknown ten years ago and were developed at the Shirley Institute, the headquarters of the British Cotton Industry Research Association. They are a new type of vapour-permeable cloth which gives outstanding protection against water —achieved partly by means of a proofing agent and partly by a self-sealing action due to the swelling of the fibres when exposed to water or rain. There is no continuous coating with a rubber or oil proofing agent and *water vapour* can pass from the inside surface to the outside surface of the garment while the passage of *water* in the opposite direction is prevented. The cloth is thus able to breathe and does not become hot when worn.

The obvious use is that of providing water and windproof garments for outdoor workers. In a drizzle an outdoor worker is often provided with stiff and heavy oilskins which handicap him. He can now be provided with a fairly light, waterproof coat which can be worn in wet weather without encumbering the

wearer. As a dust-proof garment, ventile cloth should prove very satisfactory.

Industrial footwear has made steady advances owing to the competition between the various manufacturers. Many patterns of boots and shoes with internal steel toecaps are indistinguishable from ordinary footwear. Their sale in larger factories has reduced foot accidents by many thousands, and it would be a step forward if safety footwear for men and women was available in all factories. Plastic soles have recently been marketed and appear to wear well. They are cheaper than leather soles, have reasonably good non-skid properties, and are light.

The Clog Manufacturers' Association have now developed various styles and types of clog for industrial use. They are warm and comfortable if properly fitted. It is now possible to obtain clogs with internal steel toecaps. Ankle, calf and knee length clogs are obtainable with rubber or leather uppers. Irons are no longer the only sole-protectors marketed; rubber and leather are now frequently used. Beryllium copper clog "irons" have been used where there is a fire risk, but they are rather expensive. Leather or rubber can generally be substituted.

Hard Hats

Hard hats, which at one time only seemed to be worn by miners, are now frequently met with in factories. Latest developments have given us lightweight hats which will stand heavy impact loads. The internal fittings are interchangeable and the hats can be easily sterilised.

Knitted asbestos gloves have great strength and flexibility. In the knitting it is possible to use two or three thicknesses of asbestos wool at the wearing point, for additional strength. Because they are seamless they are more flexible and it is of course impossible for them to gap or open at the edges of the fingers. A large manufacturer of leather gloves will have the right type of glove for any sort of job for which leather is suitable. It is a false economy to think that one type of glove is suitable for all types of work. A considerable reduction in cost can often be made by spending more on an individual pair of gloves which will have a longer life.

Goggles and industrial spectacles have in the past decade become more comfortable and at the same time give greater protection than those marketed pre-war. Box type plastic goggles which fit over, when necessary, corrective spectacles are now commonplace. Lightweight in-

He is wearing a nylon boiler-suit and box type plastic goggles.

dustrial spectacles give good protection and are so light that the wearer hardly realises that he or she is wearing them. Coloured frames for women workers are one means by which one can break down the antipathy towards wearing "ugly" goggles.

Welding helmets which can also be used as chipping screens have now entered the engineering shops. In one model there is a knob on the front which only requires a turn to displace the coloured screen and expose a clear chipping screen, while in another the raising of the helmet automatically lowers a clear plastic screen over the wearer's eyes.

BLUEPRINT FOR PROFIT-SHARING

Continued from page 203

tees in accordance with the dividend distributed on the issued ordinary share capital (scale A) is used by the trustees for the purchase of ordinary shares in the company, and in order that these may be bought at the most advantageous times, money may be advanced by the company for this purpose during the year.

These shares are transferred to employees as soon as possible after the annual general meeting. Any dividends received by the trustees are also passed on to employees. Part shares cannot be transferred, but are distributed in cash. If the number of shares due to an employee is less than ten, these may also be paid in cash, at the discretion of the trustees.

The proportion of gross profits paid over to the trustees (scale B) is also distributed to employees, after deduction of income tax on the whole bonus, i.e. including the value of the transferred shares.

Any employee wishing to dispose of his shares must first offer them to the trustees, who may purchase them at the middle market price ruling on the day prior to the offer being made. If they do not wish to purchase, the employee is at liberty to dispose of the shares as he wishes.

Below is an example of how the scheme works:

	£	s.	d.
Nominal basic wage...	300	0	0
Increase for long service, 10 per cent (15 years' service) ...	30	0	0
	330	0	0
Bonus 6¼ per cent ...	20	18	0
Payable in shares to the value of ...	10	9	0
Payable in cash ...	10	9	0

Health of Welders

AN investigation by the Factory Department into the possible consequences of welding processes on the health of the workers has shown that welders do not suffer from any specific disease that could be described as "welders' disease" nor does occupational dermatitis appear to be a serious cause of disability. Electric welders may suffer from "arc eyes," but this has no permanent effect upon the vision. Slight irritation of the throat may also be caused by fumes, but has no lasting effects.

A mild form of bronchial irritation appears to be slightly more prevalent than among the general population, but there is no evidence that welding predisposes to T.B. Stomach troubles are not above average, rheumatism is not excessive, nor is there evidence of any ill effect on blood pressure or the nervous system.

The report recommends good general ventilation, or close localised exhaust ventilation where articles are electrically welded on benches, where welding is done in confined spaces, or where fumes contain poisonous or irritating substances.

Theme of This Year's I.P.M. Conference

Personnel Management Can Do Much to Raise Output

Miss Anne Shaw (Mrs. Pirie), I.P.M. president, receives guests with her husband and the Mayor and Mayoress of Harrogate.

"WHAT we want is a vitality drive rather than a productivity drive," said Professor T. H. Marshall, C.M.G., Professor of Social Institutions, London University, when he addressed the annual conference of the Institute of Personnel Management at the Royal Hall, Harrogate, last month. All-round vitality could both stimulate production and prevent the sacrifice of ends to means—of the spiritual to the material.

How to stimulate vitality? First, educate for freedom, enterprise, creative effort and enjoyment. Secondly, let public authorities and private enterprise provide facilities for common enjoyment which can be individually enjoyed, like public libraries and parks, and group activities. Next, help the battle against suspicion, antagonism, jealousy and group selfishness; and finally, fight against fear—of the new and untried, of risk, of being different, of being exploited, of being thrown on the social dustheap.

Productivity, concluded Professor Marshall, could be increased by maximum technical efficiency in the organisation of production; by continuous and widespread operational research and the speedy use of its results; and by raising the level of effort, concentration and quality among those at work.

Sir Hubert Houldsworth, chairman of the National Coal Board, felt that the answer lay in a decent, human approach to, and treatment of, employees. Managers and manual workers must respect each other. Welfare *qua* welfare had little effect on happiness. Supervisors must be educated in human relations—this had not been adequately done in the past. The goal must be to replace the old discipline with self-discipline.

Industrial Productivity stated: 'We

Properly used, consultative committees were of great value, but one difficulty was the gulf in a big factory between the committee and the men they represented. Conclusions reached by the committee were not always got over adequately to the average workman. Higher management must take a real part in joint consultation.

"My labour manager and I have attended, as listeners, more than 100 consultation committee meetings in the local Board over the last few months," said Sir Hubert. "There is no greater reward for any manager than really getting to know the people in his industry. Once they trust you, difficulties vanish."

"Let specialist speak unto specialist," was the theme of Miss B. N. Seear, lecturer at the London School of Economics. The most significant cause of Britain's commercial and industrial success had been the intelligent use of specialisation—the division of labour; but this was a method which had got out of hand because we had forgotten the conditions essential for its successful use. Division of labour without understanding and co-operation led to the madhouse.

Today, far too often, we had an ever-increasing crowd of specialists who could neither understand nor communicate with each other.

"In our own field of work there is today a special opportunity and on us a special responsibility. The second report of the Tizard Committee on doubt whether the importance of the human side of the problem has even yet been given sufficient recognition. Technical improvements cannot achieve their full effect if the necessary human relations are lacking'."

"Enough research had been done in psychology and sociology to make an immense difference to human relationships, to training and to productivity, if the knowledge available were translated into action on the factory floor. But that translation could only be effective if it were fully backed, because fully understood and accepted by other specialists at factory level—by the production engineer, the maintenance engineer, the actual operator who performed the manual operation.

This, said Miss Seear, was pre-eminently a challenge to the personnel officer.

Quoting Stanley Baldwin, Dr. W. G. Hiscock, director and general manager, Imperial Smelting Corporation, said: " 'Four words contain salvation for this country and for the whole world—faith, hope, love and work.' I would add: And the greatest of these is work." The management who could maintain harmonious working relationships would have the least worries, and personnel managers could do much towards this end.

The Conference, which was attended by 660 delegates, was ably conducted by Miss Anne Shaw, I.P.M. president. The officials of the Institute are to be congratulated on organising a smooth-running conference, from which delegates must have gained much enjoyment as well as instruction.

Dr. W. G. Hiscock. **Miss B. N. Seear.** **Sir Hubert Houldsworth.**

Longer Hours Worked in 1951

AVERAGE hours worked by adult male employees in April, were 47.9 per week, the highest since the end of the war. The increase in the average number of hours worked by women and juveniles was not so great, and brought the average for all workers down to 46.3 hours. Average hours worked by the main industrial groups are shown in Table A.

The increase in earnings was also the largest in any six months' period since the war. Adult male workers earned an average of £8 0s. 2d. per week in April, compared with £7 10s. 5d. in the previous October. Average weekly earnings of all workers in the industries covered by the review increased to £6 16s. 2d., compared with £6 8s. six months before. Average weekly earnings for the main industrial groups are shown in Table B.

TABLE A

Industry Group	Men (21 years and over)	Youths and Boys (under 21 years)	Women (18 years and over)	Girls (under 18 years)	All Workers
	Hours	Hours	Hours	Hours	Hours
Treatment of non-metalliferous mining products other than coal	49.3	44.7	41.7	42.9	47.4
Chemical and allied trades	48.1	44.0	42.5	42.5	46.7
Metal manufacture	47.7	43.8	41.6	42.0	47.1
Engineering, shipbuilding and electrical goods	48.1	44.0	42.5	42.5	46.9
Vehicles	46.5	43.8	41.6	42.0	45.8
Metal goods not elsewhere specified	47.2	43.9	41.2	41.2	45.1
Precision instruments, jewellery, etc.	46.2	44.0	41.9	42.7	44.6
Textiles	47.9	45.1	42.4	43.2	44.7
Leather, leather goods and fur	46.4	44.6	41.5	43.0	44.5
Clothing	44.6	43.6	40.7	42.0	41.9
Food, drink and tobacco	48.5	44.4	43.3	43.2	46.3
Manufactures of wood and cork	46.8	44.6	42.0	43.1	45.8
Paper and printing	46.9	43.8	42.7	43.3	45.3
Other manufacturing industries	48.5	44.1	42.5	42.4	46.0
All manufacturing industries	47.6	44.1	42.0	42.7	45.7
Mining and quarrying (excluding coal)	48.0	45.0	42.1	§	47.8
Building and contracting	48.7	45.5	40.9	§	48.3
Gas, electricity and water	47.9	44.1	40.0	§	47.6
Transport and communication (excluding railways and London Transport)	50.5	46.4	44.8	§	49.9
National and local government service	45.5	43.9	40.2	40.9	44.8
All the above, including manufacturing industries	47.9	44.5	42.0	42.7	46.3

TABLE B

Industry Group	Men (21 years and over)	Youths and Boys (under 21 years)	Women (18 years and over)	Girls (under 18 years)	All Workers
	s. d.	s. d.	s. d.	s. d.	s. d.
Treatment of non-metalliferous mining products other than coal	165 7	78 1	84 0	55 10	142 1
Chemical and allied trades	162 10	72 7	85 5	56 8	141 8
Metal manufacture	179 3	77 3	88 2	57 0	167 5
Engineering, shipbuilding and electrical goods	165 11	59 10	89 6	54 7	145 5
Vehicles	172 3	61 10	95 7	59 0	155 3
Metal goods not elsewhere specified	166 8	65 1	84 5	55 4	134 2
Precision instruments, jewellery, etc.	166 6	61 11	90 2	55 8	132 1
Textiles	157 0	70 9	91 10	65 7	114 10
Leather, leather goods and fur	153 3	67 4	83 1	52 4	120 5
Clothing	153 1	62 4	89 1	53 0	99 5
Food, drink and tobacco	141 10	61 5	80 3	50 11	115 7
Manufactures of wood and cork	162 6	67 0	91 1	53 9	138 9
Paper and printing	171 3	66 3	82 0	50 7	131 5
Other manufacturing industries	166 3	70 3	85 1	55 1	130 0
All manufacturing industries	165 0	64 3	87 11	56 4	134 2
Mining and quarrying (excluding coal)	155 10	76 10	87 1	§	150 9
Building and contracting	160 7	77 3	78 9	§	152 7
Gas, electricity and water	151 6	64 11	82 5	§	146 0
Transport and communication (excluding railways and London Transport)	151 2	67 5	110 11	§	145 6
National and local government service	126 2	70 0	76 8	49 0	118 8
All the above, including manufacturing industries	160 2	66 11	87 4	55 11	136 2

84,000 More Workers

MINISTRY OF LABOUR statistics show that during August the working population increased by 47,000 men and 37,000 women, mainly due to the influx of school leavers. There was a marked increase in the number of workers in the metal, engineering and vehicle industries.

Overtime Agreement

AGREEMENT has been reached between the Amalgamated Society of Textile Workers and kindred trades and the Leek Manufacturers and Dyers Association on wage rates to be paid for adjusted working hours likely to be caused by load spreading. So that a normal 45-hour week can be worked, overtime rates will only be claimed before 7.30 a.m. and after 7.15 p.m. on weekdays, or before 7.30 a.m. and after 12 noon on Saturdays.

Accident Statistics

SEPTEMBER issue of ROSPA's Industrial Accident Prevention Bulletin includes the statistical supplement for the year 1950. These figures have been supplied by approximately 1,200 firms, and are issued to enable firms to compare their figures with those of others in comparable industries. Frequency and severity rates are given, and returns are tabulated under industries, following the main classifications used by the Ministry of Labour. Copies may be obtained from 52 Grosvenor Gardens, London, S.W.1, price 10d. post free.

Reproduced from *Ministry of Labour Gazette*, September, 1951

WAGES NEWS

AGRICULTURAL WORKERS—An offer by farmers of an extra 2s. a week to agricultural workers if they would forgo an additional 5 days' holiday with pay, was rejected by the unions. They confirmed the recent wage increases which give a minimum of £5 8s. and £4 2s. for a 47-hour week to men and women respectively.

MINERS—National Union of Mineworkers is claiming wage increases of £1 a week for surface workers, £1 3s. for day-wage underground workers, and 3s. a shift for pieceworkers. This would raise the national minimum rates for day-wage men to £6 10s. on the surface and £7 10s. underground.

POLICE—Police Superintendents in England, Wales and Scotland have received a pay increase of £150 a year, including the interim award of £130 granted last August.

POST OFFICE WORKERS—Civil Service Arbitration Tribunal has agreed to reductions in the period of incremental scales; points in the scales increases amount to 12s. a week.

TELEPHONISTS—About 8,000 male telephonists have received wage increases varying from 9s. a week.

TRANSPORT WORKERS—Wage increases ranging from 7s. to 8s. a week, with extra increases for skilled maintenance workers, have been received by 96,000 employees of privately owned bus undertakings. The award also provides for two weeks holiday with 88 hours' pay after three years' service, and six public or local holidays with pay.

WOODWORKERS — Amalgamated Society of Woodworkers, at their recent annual conference, instructed their Executive to make early application for "a substantial wage increase."

Night Baking

COMPLETE abolition of night baking is not an economic proposition, according to the report of the committee on night baking, appointed by the Minister of Labour. Instead, the report recommends that legislation be introduced to require every bakery either to cut out night baking between 10 p.m. and 5 a.m., or not to employ workers between 6 p.m. and 6 a.m. for more than half the weeks in a year. The proposal is qualified to allow work to be done outside permitted hours one night a week to meet requirements of week-end trade, statutory holidays and the Jewish Sabbath, or to deal with machinery breakdowns, etc.

Work Study Campaign

WORK-SAVING Week—November 19-23—is a campaign to popularise work study. Its objective is to make everyone more aware of the importance of doing a job in the easiest way. Firms are asked to co-operate, either individually or through their associations.

Employers are requested to appoint a work-saving representative, and give him their full support and assistance. This representative should write to the campaign office at the Institution of Production Engineers, 36 Portman Square, London, W.1, or at the Institute of Industrial Supervisors, 47 Temple Road, Birmingham 2, for a list of suggestions and ideas developed by other firms. One company is putting on a materials handling exhibition for its employees, and others are running courses in work study for supervisors, shop stewards and groups of workers.

New I.W.S. Assistant Director

MISS ELIZABETH PEPPERELL joins the Industrial Welfare Society as an assistant director next January. She will be concerned with personnel management, the visiting programme of the Society, and welfare and human relations in offices and the retail trade.

Born and educated in East London, she worked in a factory for seven years after leaving school. By spare-time study, she won the Mary MacArthur scholarship, which took her to the London School of Economics for two years. For the past eleven years she has been welfare officer at Carreras Ltd.

LETTER TO THE EDITOR

Sir,

We were a little surprised to see in your September issue an article by M. W. Jude entitled "Let Us Pool our Suggestion Scheme Ideas" in which no reference was made to the following facts:

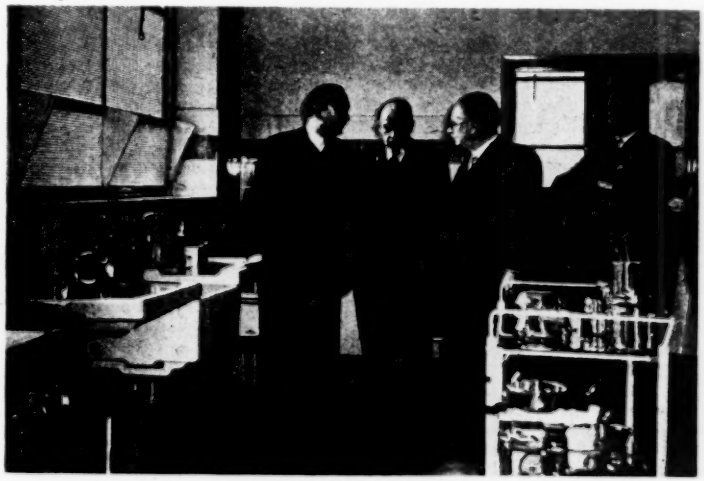
1. The Industrial Welfare Society exists to provide a central pool of information on suggestion schemes and many other matters connected with working conditions, employee amenities and human relations.
2. We do in fact collect in our Information Service and make available to all our members the latest information on suggestion schemes.
3. A member of our advisory staff is a specialist on these schemes.
4. The combined experience of our member firms and organisations is made available to the general public in our booklet *Suggestion Schemes*, which is the only publication specifically dealing with the topic.

Yours etc.,

THOMAS FASSAM

Publications and Press Relations Officer,
Industrial Welfare Society.
48 Bryanston Square,
London, W.1

Miners' executives have decided to accept the National Coal Board's proposed scheme for pensions ranging from 10s. to 30s. a week at 65.



Mr. Alfred Robens, Minister of Labour in the late Socialist Government, toured the new Port Medical Centre at the Royal Albert Dock, London, after he had opened it on September 28. With him are, left to right, Sir John Anderson, Lord Cook, Chairman of the Board, and Dr. C. H. Hoskyn, Port Medical Officer for London. It was the late Ernest Bevin who started the idea of medical centres for dock workers.

How to Plan and Equip your Civil Defence Unit

5—Training Syllabuses and Aids

By JOHN O. BAKER, *Founder Fellow, Institute of Civil Defence, and Civil Defence Officer, South-east Ports*

TRAINING, if it is going to have any value at all, must be varied, interesting, objective, and carried out at regular intervals. Syllabuses, therefore, must be prepared with care.

The broad outline of the training necessary for those undertaking Civil Defence duties was given in last month's article, and from this it can be seen that quite a variety of training has to be undertaken. It is up to the training officer to see that variety is introduced as early as possible.

Don't start off on the wrong foot by dragging volunteers through the whole twenty-two hours of basic general training before moving on to something else. Quite a number of them will have been connected with Civil Defence during the last war, and even if they do not know all that is included in the basic general training, they will think they do. Consequently, boredom will soon be apparent and this must be avoided at all costs. Remember that people who volunteer for Civil Defence duties usually want to serve in a specific section, and it is in the functions of this section, and the part which they themselves will play, that they are really interested. Section training, therefore, should be introduced early in the programme. The best way of doing this is to alternate section training with basic general training after, say, the fifth session, and when this programme is completed, to alternate section training with first-aid instruction. Variety is thus introduced, and at the same time three steps forward are being taken instead of one. To avoid the competing attractions of the summer, it is suggested that training periods be of two hours each for thirty weeks during the first year, and of two hours each for fifteen or twenty weeks during the succeeding years, unless some crisis demands greater urgency.

6 POINT TRAINING PLAN

1. **Provide variety—ring the changes with basic, section and first-aid instruction.**
2. **Don't train during the summer.**
3. **Use C.D. equipment, models, filmstrips and charts.**
4. **Plenty of operational training.**
5. **Make first-aid lessons realistic.**
6. **Don't forget the tea break.**

What training aids has the instructor at his disposal? First (though only too often neglected) are the actual pieces of equipment used in Civil Defence. As much use as possible should be made of these, combined with practical work. Doing something is far more interesting than just sitting and listening.

Models are another valuable training medium. They are so much more alive than any drawing can be. A model house, for example, can be used for several instructional purposes—to show the spread of fire in a building, the most suitable room to use for protective shelter, the path of search in a house, etc. Cleansing stations, shelters of various types, and pieces of equipment used in rescue work are all things which can be demonstrated to very good effect by models. No great expense need be entailed in producing them, for all that is required is three-ply, glue, panel pins and paint, plus a little constructional ability.

The filmstrip is another useful training aid, and the Home Office have produced some excellent ones. (Official distributing agents, Eyre and Spottiswoode Ltd., 5s. each.) Each is issued with a booklet which provides a ready-made commentary on the features depicted. The blackboard and chalks are time-honoured aids, but the drawback here is that often the instructor is but an indifferent performer on a blackboard. If this should be so, the blackboard is better left out of the piece. Charts have much more to commend them. They can be prepared at leisure and used over and over again. They can be produced at just the right moment, without causing the distraction which drawing or writing on a blackboard is inclined to do.

Plenty of time should be devoted to tactical or operational training, so that every conceivable set of circumstances can be visualised, appreciated and handled efficiently in the surroundings where they would be likely to occur. It is not always possible to conduct tactical exercises on the actual site, but a tactical table can be constructed which embodies all the features of any particular site (or town, for that matter). After the stage has been set, the students can work out their own solutions.

Training in first-aid should be really thorough and made as realistic as possible by the use of faked casualties. There is a very wide scope for providing a lively interest in first-aid, and a future article will explain how to produce faked casualties, prepare the necessary make-up, etc.

Earlier, it was stated that training periods should be two hours each. It will be found that most subjects can be covered by the instructor in about forty minutes, so that ten to fifteen minutes can be allowed for questions and discussion plus, if it can be arranged, a break with a cup of tea or coffee to accompany it. This small gesture to the social graces is well worth observing.

NEXT MONTH—RECRUITMENT

A NEW pamphlet, *Principles of Damage Control* (Manual of Basic Training, No. 8, H.M.S.O. 1s.) has been published by the Home Office, who believe that the old term "incident control" has been rendered out of date by the atomic bomb and saturation bombing attacks.

Police and wardens would be responsible for damage control. Details of the technique to be adopted are still being considered; the new pamphlet is merely an introduction to the subject.

Looking Ahead

ADVANCE NEWS OF NEW FACTORIES AND WELFARE EXTENSIONS

Adlington (Ches).—Light engineering factory proposed in London Road by the Stockdale Engineering Co. Ltd.

Billingham-on-Tees.—Imperial Chemical Industries Ltd., to extend the offices at the Nylon Works and also erect a canteen for 424 people.

Blantyre.—Factory of Honeywell Brown Ltd., electrical instruments manufacturers, to be extended by a further 15,000 sq. ft. Scottish Controller, Board of Trade, said that many other expansion schemes for Blantyre are receiving support.

Bootle.—New factory proposed by English Electric Co. Ltd., Stafford.

Bournemouth.—Plans submitted for alterations to provide a canteen, cloakrooms, workrooms, etc., for Bobby and Co. Ltd., at 12 Commercial Road.

Brighton.—W. G. Phillips and Partners, 97 Mortimer Street, London, W.1, are architects for new factory proposed by Shipston Engineering Co. Ltd. Corporation proposes contracts for erecting factories at Hollingbury Industrial Estate with Kirk and Kirk Ltd., Upper Richmond Road, London, S.W.15, at about £131,000, and with Rice and Son Ltd., Gloucester Place, Brighton, at about £64,000.

Cardiff.—New works proposed by H. Vanderplant Ltd., Reliance Buildings, Bute Street, Cardiff.

Cheltenham.—B.C. is to make application for permission to lease site at Swindon Lane to Davis, Wynn and Andrews Ltd., for the erection of a factory.

Chester.—Plans submitted: Approval to interim development plans for works to Brookhirst Switchgear, Northgate Works.

Croydon.—Plans submitted: Factory King Henry's Drive, Addington, for Dr. Lindhart, Magnet Match Works, 71 Lincoln's Inn, W.C.2; Reconstruction of factory, Cresswell Works, South Norwood, for W. R. Platten Trust, Cresswell Works, Albert Road, S.E.25; Reconstruction of factory, 445 Brighton Road, for C. J. Neiman Ltd.

Dudley.—T.C. is to lease land at Pear Tree Lane to Coleyshaw Ltd., for the erection of factory premises.

Dunfermline—Plans being prepared by Mr. Stewart Bentley, Dunlop Cotton Mills, Fort Dunlop, Birmingham, for an extension, to cost £190,000, proposed at Pilmuir Street by Victoria Cotton Mills.

Dundee—British Oxygen Co. Ltd., Bridgewater House, Cleveland Row, London, S.W.1, proposes erection of factory and offices.

Dover.—Sketch plans for factory proposed in Granville Street by London Fancy Box Co., Woodlands, Bridge Street, approved by Planning Committee.

Eastbourne.—Armour Co., a U.S.A. firm to have new factory erected at Hampden Park, eventually to employ 250-300. Application to be made for a building licence for a new printing works at Commercial Road, for Strange The Printers Ltd. Cost: £24,000. Architect: Mr. H. Hubbard Ford, Cornfield Road, Eastbourne.

Edmonton.—Plans submitted for factory north of Park Road. Architects: Fuller, Hall and Foulsham, 212 High Holborn, W.C.2. Canteen extensions, Dereta Road, Bull Lane, plans by F. E. Wilkins, architect, 808 High Road, N.17.

Farnborough.—New factory proposed at Hawley Lane by Container Reclamation Co. Ltd., 82-94 Seymour Place, London, W.1.

Fleetwood.—New factory is proposed by Mullard Radio Valves Co. Ltd., Century House, Shaftesbury Avenue, W.C.2.

Glasgow.—Weddell and Thompson, 216 Bath Street, Glasgow, C.2, are architects for new factory proposed by F. Parker Ltd. Approval received for factory proposed at Springfield Road, Dennistoun, to plans by the Sun Ventilating Co. Ltd., 206 Springfield Road, Glasgow, E.C. Rebuilding works proposed by William Motherwell and Co. Ltd., 38 Portman Street, Glasgow, approved.

Hemel Hempstead.—Clifford Tee and Gale, Moorgate Hall, Moorgate, London, E.C.2, are architects for factory proposed by Rotax Ltd.

Hendon.—Plans submitted: Factory, for National Cash Registers. Architects: J. Stanley Beard, Bennett and Wilkins, 101 Baker Street, London, W.1.

Manchester.—Cruickshank and Seward, 16 Princess Street, Manchester 2, are architects for factory proposed by Renold and Coventry Chain Co. Ltd. Mr. G. Bullimore, Lloyds Bank Chambers, Great Underbank, Stockport, Cheshire, is architect for three-storey extension proposed in Woodward Street, Ancoats, by Associated Technical Manufacturers Ltd.

Middlesbrough.—Kitchen and Co., 21 Albert Road, Middlesbrough, are architects for factory in Suffield Street for Greco Brothers, wafer manufacturers.

Newcastle-under-Lyme.—New works proposed by British Glues and Chemicals Ltd. New canteen at Audley Road, Chesterton, for G. H Downing and Co. Ltd.

Newcastle-upon-Tyne.—Newcastle Co-operative Society Ltd., Newgate Street, Newcastle, propose factory in Challen Street and Oaks Place to plans by C.W.S. Architect's Department, 90 Westmorland Road, Newcastle. Mr. M. Gatoff, 25 Trafalgar Street, Newcastle-upon-Tyne, is architect for factory proposed by St. James's Products.

New Malden.—Mr. E. R. Burnham, 29 Strawberry Vale, Twickenham, is architect for a factory and laboratory, to cost approximately £80,000, proposed by the Decca Navigator Co. Ltd.

N. Ireland, Co. Fermanagh.—Large factory to be erected at Lisnaskea by Northern Ireland Ministry of Commerce, for English Sewing Cotton Co. Ltd., Arkwright House, Blackfriars, Manchester, 3. About 325 will eventually be employed.

Orkney.—Terminal building, to cost approximately £15,000, is proposed at Grimsetter Airport by British European Airways.

Ormskirk.—T.C. has recommended site at Town End for development to be undertaken by F. H. Burgess Ltd., agricultural engineers, Church Street.

Paisley.—United Thread Mills Ltd., have plans to erect new spinning mill at Ferguslie Thread Works, Paisley. Reported that the new buildings will cost £500,000.

Portsmouth.—T.C. approval recommended for factory south of Waterworks Road, Farlington, for J. H. Sparshatt and Son, London Road, Hilsea.

Radcliffe.—Plans approved. Works canteen at Clough Works, for Theodore St. Just Ltd.

Sheffield.—J. M. Jenkinson and Son, 18 Norfolk Row, Sheffield, 1, are architects for factory proposed by Davenport Bros. and Co. Ltd. Corporation Estates Committee proposes to lease to Brookshank Ltd., land in Biston Street and Shepherd Street as site for proposed cutlery factory. Corporation to lease land at Sidney Street to F. W. Portass, engineers, as site for a proposed factory. Land in Sidney, Arundel and Sylvestre Streets to the Tenyous Steel Co. Ltd., Wentworth Street, Sheffield, for factory for steel manufacture.

South Kirkby (Pontefract).—Factory proposed at South Kirkby by Plasticisers Ltd., subsidiary of E. and G. Slack Ltd., Old Mills, Drighlington, Bradford.

Stone (Staffs).—R. W. Lone, 15 New Square, Lincoln's Inn London, W.C.2, are the architects for factory proposed by Quickfit and Quartz Ltd., 1 Albermarle Street, London, W.1.

Swansea.—Plans submitted: Conversion of offices into staff canteen, Swansea Vale Works, Llansamlet, for National Smelting Co. Ltd.

Weetslade (Northumberland).—Erection of canteen at Weetslade Colliery for Northern Coal Board.

West Bromwich.—Plans submitted: Factory offices and canteen, Birmingham Road, for British Typewriters Ltd., 31 High Holborn, London, W.C.1. Architect: C.E.M. Fillmore, 8 Newhall Street, Birmingham. Factory proposed in Bromford Lane by J. and R. Morriss and Co. Ltd., Barclays Bank Chambers, West Bromwich. New Factory proposed by Metal Closures Ltd., on the Lyttelton Hall Estate.

Wolverhampton.—Steel rolling mill proposed by Wolverhampton Steel and Iron Co. Ltd., Osier Bed Works, Wolverhampton.

Wrexham.—British Celanese Ltd. has received building licence for first stage of its factory development at Wrexham, where eventually 4,000 will be employed on rayon manufacture. Building will cost £2,000,000, will begin immediately and is expected to take three years.

Centenary Cruise

TO celebrate the centenary of their firm's foundation, employees of James H. Randall and Son Ltd., makers of Randalrak steel storage equipment, etc., spent Saturday, September 29, on a river outing to Richmond and back.

During the day, Mr. J. E. Randall was presented with a terra-cotta bust

Mr. Goodenough, with his silver bowl, and Mr. Randall.

of himself sculpted by Miss Freda Skinner and subscribed for by his employees. In his turn, Mr. Randall presented a silver bowl to Mr. W. T. W. Goodenough in recognition of his 25 years' service with the company. (See picture.)

The outing was a great success, with dancing on deck and a wealth of refreshment, both solid and liquid.

The Foreman's Job

TWO further sections of the Institute of Industrial Supervisors, were recently inaugurated—at Leicester and Stockport. At Leicester, Mr. F. J. Burns Morton (director, A. E. Hawley Ltd., and president of the section) said that in days gone by, skilled craftsmanship and long service were the basis for the selection and training of foremen. Today, foremen must have knowledge of organisation, skill in management and understanding of social, economic and labour problems. The Institute could help to equip foremen to play a more active part in achieving industrial efficiency.

How We Train Apprentices For Our Canteen

By K. T. SMITH

General Secretary, Vauxhall Motors Recreation Club

Feeding 12,000 employees is a big job. Faced with a shortage of skilled catering workers during the war, Vauxhall Motors Ltd. hit on the idea of ensuring a supply of trained personnel by instituting canteen apprenticeships (without premium). Starting small, the scheme is now well under way, with eight youngsters at present under indentures.

Learning how to make a pudding.

VAUXHALL MOTORS recreation club started its apprenticeship scheme in 1943, when there was a dearth of suitable catering trade workers, and when the few obtainable were usually unskilled. It started in a very small way with two boys, and when the experiment had proved itself, others were added until now, when at full strength, there are eight indentured apprentices—six boys and two girls.

The turnover of the club is over £170,000 a year. The canteen, which is up-to-date and includes the latest mechanical appliances, caters for the daily needs of the 12,000 employees of Vauxhall, for very few go home to dinner. Approximately 4,700 main meals, 4,500 sweets and 27,000 cups of tea are served daily. The main business comes from the canteen buildings—one of the largest units in the country—but there is a smaller canteen at a Dunstable factory and a large cafeteria in the new 19½ acre machine shop, recently erected.

The main premises include bars and club rooms and the club undertakes dinners and running buffets for sections of its sports club. The range of experience is thus very wide indeed. The canteen staff numbers about 160, headed by a canteen manager, his assistant and a lady supervisor.

These three are responsible for the training of the apprentices, although the policy is laid down by an apprenticeship sub-committee of the club's general council, which is composed of elected representatives, and representatives of the sports sections and of management. The sub-committee includes the canteen manager, the company's education officer, the youth welfare supervisor and the general secretary of the recreation club. The last named is responsible for the curriculum and the apprentices' welfare, while the canteen manager puts the training into practice.

The training scheme is objective and is based on principles developed from the best practices of the industry. It includes instruction for such trades as those of chef, baker, pastrycook, confectioner, butcher, grocer, fishmonger, wine and spirit merchant, waiter, accountant, and business administrator.

Furthermore, so that the apprentice can learn more about the finer points and technicalities of catering, he is sent to the Westminster Technical College where hotel cookery is the main subject. Practical experience is arranged with suitable local outside suppliers (butchers, grocers and so on) during the apprenticeship. Part-time study in English grammar and arithmetic is arranged.

The apprentice makes out monthly reports on his training and from these and from his practical work a progress report is sent every four months to his parents.

Applications are accepted from boys and girls of sixteen years of age from all types of school, and a good educational standard is required. Usually two boys and two girls are selected each year according to needs. After selection the applicant is examined by the company medical officer. No financial bond or premium is required. The apprentice is paid during his training whether it is at the technical college, on outside courses, or at outside businesses. The wage is based on hourly rate-for-age scales and is in line with the Vauxhall grading scheme. The apprentice enjoys all the advantages of insurance and welfare schemes run by the parent company. Here is the curriculum, excluding the part-time training at the local technical college:

First Year.

First four months. Kitchen routine. Commodities used and vegetable preparation. During the first two months the apprentice is under the most careful supervision so that his or her suitability for the whole of the course can be assessed.

Two months. Making sauces and soups. The principles of cooking. At this point an agreement is signed by the club and the parents or guardian, providing that the apprentice has satisfactorily passed through the probationary period.

Three months. Larder work.

Three months. Revision of previous work.

Second and Third Years.

Nine months. The apprentice attends Westminster Technical College for a full course on hotel cooking.

Three months. Bakery, including pastry and confectionery. Preparing puddings and sweets.

Three months (boys). Butchery. This course is taken at an outside firm selected by the club.

Three months (girls). Control of linen room. Repairs to linen. Waiting and buffet service.

One month. Bar work, including the storing of wines and the mixing of cocktails.

Two months. Administration, stock control and the revision of past work.

Three months. Accountancy, stock-taking and cash control.

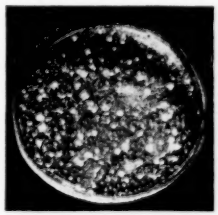
PERSONAL PRIDE—PUBLIC DUTY

How many customers use your cups, glasses, cutlery in a day? You can't check the health of every user. Even healthy people can be "carriers" of dangerous infections. The smallest cafe can be the focal point of serious outbreaks of sickness. It's your responsibility.

The danger is in the washing-up water

An infected utensil goes into the sink. Some of its germs will be left behind. The next utensil is therefore washed in *infected water*. And the next, and the next . . . Germs are invisible. Utensils that *look* bright and clean may be safe—or positively dangerous. These pictures prove it.

Bacteria in untreated washing-up water



Washing-up water treated by the Deosan Method

THE DEOSAN
CLEAN FOOD SERVICE ROUTINE

A few simple procedures, adding nothing to your staff's labours and little to your running costs will ensure complete sanitization of your washing-up, put you way ahead of increasing official vigilance in this matter. You'll have a kitchen to be proud of, you'll have performed an urgent public duty. A postcard to the address below will bring you full details.

Deosan Limited, 10-12 Brewery Road, London, N.7. ASSOCIATE COMPANY OF MILTON ANTISEPTIC LIMITED

How to cut absenteeism

The main cause of lost time in industry, according to the Medical Research Council, is sickness absence. Much of this absenteeism can be traced to the transmission of contagious ailments through the use of communal towels. After washing, hands should be dried on a clean, fresh, fluff-free paper towel—an immaculate towel like Hi-Dri, designed to be used once, then thrown away!

ROLLER TOWELS MEAN WAITING and CONGESTION
—Lost Man Hours—Transmission of Germs—Expensive Laundry Bills

MOISTURE MAGNET!
Hi-Dri towels absorb every drop of moisture. Will not disintegrate when wet.

DISPENSER CABINETS SUPPLIED FREE ON LOAN

Hi-Dri
PAPER TOWELS

WITHOUT OBLIGATION
Write or phone today for details or ask for a demonstration of Hi-Dri paper towels and further proof that they can help you cut absenteeism!

REMEMBER GENEROUSLY
SAT • NOV 10

HYGIENE PRODUCTS (Gt. Britain) LTD., 11 Grosvenor Gardens, Westminster, London, S.W.1
Telephone: VICtoria 1951/2

New Industrial Equipment

EXECUTIVES' SURVEY OF AIDS TO INCREASED PRODUCTION

Readers who wish to have more particulars of any of the products referred to in this section are asked to write to the Editor, quoting the reference number which appears at the end of the paragraph.
We are always glad to receive details of new products suitable for description here, e.g., equipment that helps in any way to raise output.

WELFARE

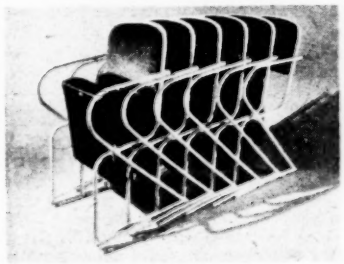
Shower Cabinet

HERE is a self-contained shower cabinet giving, instantaneously, a hot, warm or cold shower. It can be fitted into a 3 ft. 2 in. by 2 ft. 3 in. floor space. Installation is easy, no structural alteration or special plumbing being necessary. The cabinet can be easily removed when desired.

Made of sheet aluminium and steel, finished with two coats of cream stoved enamel, the cabinet is fitted with plastic shower curtain, handrail, soapdish and towel hook, chrome and plastic taps and chrome shower rose, the latter fitted on the side of the cabinet. An Ascot water heater, for use with town or bottle gas can be supplied, or the shower may be connected direct to the existing hot water system. The base well is 8 in. deep, so that it may be used for bathing small children, or as a foot bath. **(PM/420.)**

Nesting Armchair

THE R.P.20 nesting armchair has a tip-up seat and can be stacked in piles of twelve. Frame can be finished in chromium plate, cellulose or stove enamel, and seat and back covered in Rexine leather cloth, Vaumol hide, tapestry or moquette. The chairs are available in either single units or in blocks of 2, 3, 4 or 5. (If they are supplied in blocks the chromium finish is not available.) **(PM/421.)**



R.P.20 nesting armchairs.

WORKSHOP

Gas-Saving Torch

FLAME-CUTTING of ferrous metals depends on the combustion of the metals in a jet of oxygen supplied through the nozzle of a cutting torch. To bring the metal to "kindling point," the torch supplies a pre-heating flame, the fuel for which is a mixture of gas (e.g., acetylene, propane) and oxygen. In theory, once the metal to be cut has been heated to a bright red, the cutting process could be continued indefinitely in the oxygen jet without the application of further heat from the torch; but in practice it is necessary to hold the metal surrounding the cut at its kindling point. This can be done with heat supplied at only a moderate rate.

In the Buckle torch, the pre-heating flame is large during the heating-up period, but is cut down to the minimum as soon as the oxygen jet is applied. Considerable savings in gas are thus effected. To achieve these, no sacrifice of starting speed has been made. This torch is really two torches in one (see diagram). When the cutting lever is depressed and the cutting valve is closed, the pre-heating oxygen and the fuel gas are each fed to the nozzle to its full capacity through two separate balanced channels. When the cutting valve is opened by releasing the lever, one of each of the pre-heating and fuel gas channels is automatically closed and the nozzle is only fed through the other channels, these being ducted to achieve neutral flame balance. The valves which supply the additional source of heat to facilitate quick starting are directly coupled to the main oxygen cutting valve. Thus, every action of the cutting valve for re-starting creates an immediate change in the volume of the pre-heating flame, increasing or decreasing it according to whether heating or cutting is required.

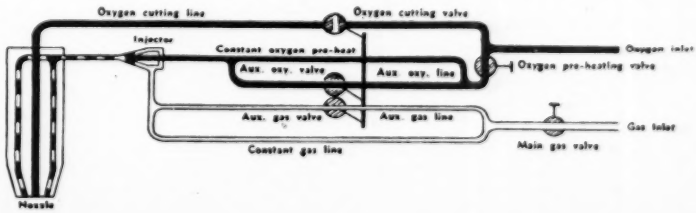
The Buckle torch is self-balancing under recommended gas and oxygen pressures, and can thus be used efficiently by semi-skilled operators. **(PM/422.)**

Ratchet Screwdriver

POWERFUL leverage, sufficient to shift the most obstinate screw, is provided by the lever extension to the handle of the Speetol all-metal ratchet screwdriver. This extension fits over the main handle when not in use, and is held in place by a spring ball catch.

At the bottom of the main handle is a quick-switch reverse lever, which reverses the ratchet mechanism for screwing or unscrewing. Dimensions of the Speetol: length, 12 in.; blade length, 6½ in.; blade width, $\frac{5}{16}$ in.; weight 1 lb. 2 oz. **(PM/423.)**

Picture on next page.



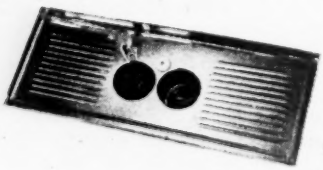
CANTEEN

Glass Washer

THE Dalex Glass Washing Unit incorporates washer and rinser, and comprises two bowls in the centre of a stainless steel washup drainer—supplied in the normal sizes ranging from 3 ft. to 6 ft. In the left-hand bowl the Hedghog glass washer is fitted, and in the right, the Hygex rinser.

Glasses are not only washed but sterilised as well, since the left-hand bowl contains hot or cold water to which the correct quantity of detergent has been added by means of a dispenser. After washing, the glass is transferred to the other bowl, where it is automatically rinsed in cold, running water. No additional plumbing is necessary when fitting this unit. The hand-operated detergent dispenser is fitted above the left-hand bowl.

(PM 424.)



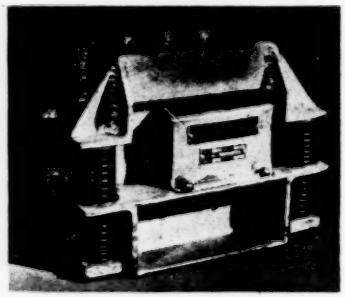
HANDLING

Bin Vibrator

THE purpose of the Magco bin vibrator is to prevent "arching up" and clogging of material in hoppers and feed chutes, so that output of following machines is not impaired. The device gives difficult materials an almost fluid flow. It is of the electro-magnetic type, energised from A.C. mains, and requires no lubrication or other attention. A regulator connected in the circuit enables the degree of vibration to be controlled.

Of the two units comprising the Magco, the lower consists of a laminated magnet system carrying the operating coil, which is wound on an insulated metal bobbin and finally covered with a metal enclosing cover. The top unit consists of a laminated armature which is attached to the vibrator body. Coupling between the two units is by liberally rated springs, and the whole system is tuned to be in resonance with the supply frequency under working conditions. By this means a powerful vibrating force is obtained with the expenditure of small power consumption.

Magco Vibrators are at present available in three sizes: No. V.101, weighing 12 lb., suitable for a hopper volume of about 7 cu. ft. No. V102, 35 lb., for larger hoppers with capacities up to 50 cu. ft., (plate thickness of $\frac{3}{16}$ in to $\frac{1}{4}$ in.), heavy chutes, etc. No. V103 60 lb., for heavier applications. **(PM/425.)**



Air-Cushioned Lowering

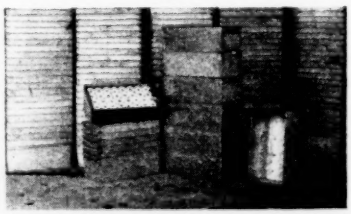
THE Wedco Aircush Lowerator has been designed to operate between gravity roller or power-driven conveyors at different floor levels and, without using any power other than gravity, to lower a succession of articles safely and speedily.

It comprises a cylindrical tube or pillar extending from the higher floor to the lower one through a small aperture in the floor. The article to be lowered is accommodated on a movable carriage which is attached to the tube and counterweighted by a piston inside the tube. As the article rolls into position its additional weight takes the carriage down towards the lower level. Simultaneously, the piston is drawn upwards inside the tube and the air that it displaces escapes through a series of ports. As the carriage nears the end of its drop the piston passes the last port in the tube and the resulting air compression slows the descent of the carriage until it is brought to an air-cushioned standstill. At the same time it is tipped forward slightly and the case is discharged and continues on its journey. Relieved of its load, the carriage ascends rapidly as the heavier piston gravitates down the tube. When the carriage reaches the higher level, air-cushioning again takes place and a selector switch is operated, which allows the next article to roll into position for the next lowering cycle.

The number of articles handled per hour depends on the length of the drop, but the Lowerator illustrated is handling up to 400 bottle cases per hour. Where a greater output is required, the Lowerator can be made to carry two articles at a time. **(PM/426.)**

Steel Nesting Crates

A NEW type of steel nesting crate for handling crushable and perishable goods is now being marketed. The important feature of the design is the swivelling handles. When turned inwards they form a ledge to carry the crate above and prevent it from touching the contents. When the handles are turned outwards, the crates, which have slightly tapering sides, can nest within each other, thus saving considerable storage space and freight charges on "empties." Twenty empty crates take up the same space as six



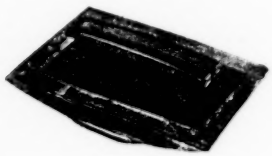
full ones. We illustrate one of the many possible applications. These steel crates, 24 in. long and 9 in. deep, have been designed for handling thirty-two one-pint milk cartons. Holes in the base make washing easy and let spilt milk escape. **(PM/427.)**

ADMINISTRATION

"Desk Blotter" Duplicator

DESIGNED to deal with the smaller duplicating jobs that larger machines cannot economically execute, the Emgee memo stamp has a printing area of approximately 6¼ in. by 3¼ in. The message is typed, written or drawn on the stencil provided, the stencil placed in position on the ink pad, and the duplicating can then be carried out. Five hundred copies can be produced from one inking, operation being similar to that for a desk blotter. The stencils have a life of over 1,000 copies.

The Emgee is supplied complete with writing plate, tube of ink, twenty-four stencils, stylus pen, inking brush and holdall carton. **(PM/428.)**



P.A.Y.E. Machine

THIS small, noiseless machine virtually mechanises the work involved in P.A.Y.E. and wage make-up. Official tax forms and 50 per cent of the tax tables are abolished. The only payroll documents necessary are the personal earnings and tax record card, the wages sheet and the employee's pay advice slip. Triple records are provided in one writing.

The entry made on the personal record card is simultaneously reproduced on the first line of the wages sheet and on the pay advice slip. The one position into which the personal record card is fed remains constant for every entry in every week of the year. An alignment device ensures that all these cards are inserted in the correct place for the current week, whatever the position of the wages sheet.

The spring-loaded magazine holds up to 150 employees' pay advice slips. Automatic, horizontal, line-by-line spacing of the documents is effected by depressing a lever. This causes the completed pay advice slip to be ejected, the wages sheet to move up one line, and the next (blank) pay advice slip to rise into place. There is no wages

packet to write. A transparent envelope receives the completed pay advice slip, simply folded to show (through) the name of the employee, and to enable him to check his wages before opening the packet. Where executives' salaries are disbursed by banker's order, the machine produces the five documents in one operation.

The machine consists of a moulded plastic case with a writing surface sloping from 2½ in. at the top, to 1¼ in. in depth at the base, as the operator sits at the desk to use it. **(PM/429.)**

Tailor-Made Desks

OFFICE desks tend to be manufactured on more or less traditional lines—with square tops and sides and conventional fitments—but new ground has been broken by one manufacturer who has produced two types of what can best be described as "made-to-measure" desks. The individualist can now express his personal predilections by having his desk equipped to his own personal requirements. The drawer pedestals can be provided with a wide range of optional drawers, with fitments to meet each individual need. For example one drawer can be fitted with six steel stationery divisions, another with partitions for segregating pens, pencils, rulers, staples, etc., and yet another—a deep drawer—with the equipment necessary for carrying suspended filing. All divisions are adjustable.

The model illustrated, the Executive, has an overhanging top, which permits several chairs to be drawn up for conferences. Like its sister model (the Clerical) it has a standard height of 30½ in., drawers 24⅝ in. long by 13¾ in. wide, and a boldly defined pattern in the red-brown mahogany from which it is made. Both models offer the user a wide choice of drawers and drawer fittings. **(PM/430.)**

Zone of Quietness

A REAL "zone of quietness" is created in the Acousti-Booth, a sound-insulated, open type telephone booth. Interior walls and ceiling are lined with Acousti-Pad quietening sheet, a perforated metal facing plate backed by a sound-absorbing material. It is claimed that the Acousti-Booth greatly facilitates telephone conversation in noisy places and that the absence of any form of door is advantageous both hygienically and in permitting freedom of movement.

Desk, wall and floor types are available. The desk type is illustrated.

Non-standard applications of this type of sound-insulated construction include observation cabinets, for use in noisy testing shops, and booths to contain automatic riveters. **(PM/431.)**

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From the NATIONAL ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS
Tavistock House North, London, W.C.1

This Dye Speeds Up the Inspector's Work

By MICHAEL LORANT

Help for the inspection department comes from U.S.A. in the form of a cheap, simple and portable means of finding the flaws in ferrous and non-ferrous metals.

SCIENTISTS at the American Northrop Aircraft Inc. have recently developed a revolutionary metal inspection process known as Dy-Chek, which promises great benefits to manufacturers and users of high-strength, precision-built machinery and equipment. This process depends upon the controlled use of a red dye, together with other liquids, to indicate the presence of cracks or other flaws too small to be seen even with a magnifying glass. When applied to the surface of the suspected metal, the Dy-Chek process causes a crack or other opening to "bleed" in tell-tale scarlet lines which emerge with photographic clarity, against a white background. Any inspector or skilled mechanic can be quickly trained in the use of this dye penetrant method.

Developed originally for use in rapid inspection of gas turbine engines, Dy-Chek is relatively inexpensive (no elaborate equipment is required), simple and portable. It can be applied to both ferrous and non-ferrous metals.

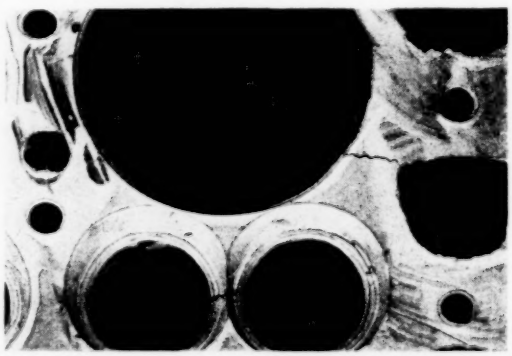
The process is not only applicable to mass production inspection of parts under factory conditions, but can also be used by a single mechanic or inspector in examining parts in the field. For instance, the crank shaft of an engine may be inspected without removing the part, if it can be seen and reached.

The Method

The non-corrosive red dye penetrant used in the process is applied to the surface of a suspected part and allowed to stand for five minutes. It is then wiped off with a surface cleaner and dye remover, and a white "developer" solution is applied. Any surface openings existing in the part can then be detected by the presence of fine red lines or dots created as the red dye—possessing extremely high capillary action—is drawn from the fissure by the developer.

Dy-Chek has been tested by Northrop scientists also at certain American welding shops, foundries and forging plants. Highly satisfactory results have been obtained in inspecting high capacity gas turbines with Dy-Chek without the necessity of complete dismantling. The new process is already in use at a number of Southern Californian aeronautical and automotive concerns. Plans are now in progress to introduce the new method in numerous other industries, including oil production, refining and transportation, mining, printing, marine construction and operation, and the heavy construction equipment field.

While Dy-Chek reveals only surface flaws or discontinuities, it is adaptable to inspection of many parts ordinarily difficult to inspect by other existing methods. Parts of complex shape and varying cross-section often are difficult to inspect by conventional processes. Some previous inspection techniques are not applicable to non-ferrous metals.



Top: Dy-Chek found several cracks in this cylinder block.

Right: A close-up of two cracks clearly defined by the process.

Summary of Official Publications

READERS' GUIDE TO ACTS, STATUTORY ORDERS, NEW RULINGS AND AWARDS CONCERNING INDUSTRY AND PERSONNEL

STATUTORY INSTRUMENTS

No. 1610. The Baking Wages Council (Scotland) Wages Regulation (Amendment) (No. 2.) Order, 1951. Dated September 3. Made by Minister of Labour and National Service under Section 10, Wages Council's Act, 1945(c). *H.M.S.O.* 4*d*. (Revokes Order BKS [21] and increases statutory minimum remuneration payable. Operative from September 21, 1951.)

No. 1630. The Road Haulage Wages Council Wages Regulation (Amendment) Order, 1951. Dated September 6. Made by Minister of Labour and National Service under Section 10, Wages Council's Act, 1945(d). *H.M.S.O.* 4*d*. (Revokes Order R.H.[36] and amends Order R.H.[30] by increasing statutory minimum remuneration payable. Operative from September 26, 1951.)

No. 1648. The Jute Wages Council (Great Britain) Wages Regulation (No. 2.) Order, 1951. Dated September 10. Made by Minister of Labour and National Service under Section 10, Wages Councils Act, 1945(b). *H.M.S.O.* 6*d*. (Revokes Order J.[84] and fixes new statutory minimum remuneration payable. Operative from September 28, 1951.)

No. 1707. The Wages Regulation (Licensed Non-residential Establishment) (Amendment) (No. 2.) Order, 1951. Dated September 25. Made by Minister of Labour and National Service under Section 8, Catering Wages Act, 1943(a). *H.M.S.O.* 2*d*. (Increases from 15 to 18 per week the hours required to be worked before provisions relating to overtime and public holidays, and calculation of holidays and holiday remuneration apply. Operative from October 15, 1951.)

No. 1708. The Wages Regulation (Licensed Non-Residential Establishment) (Managers and Club Stewards) (Amendment) Order, 1951. Dated September 24. Made by Minister of Labour and National Service under Section 8, Catering Wages Act, 1943(a). *H.M.S.O.* 3*d*. (Increases from 15 to 18 the hours per week required to be worked by stewards, stewardesses and wives of club stewards before provisions relating to weekly day of rest and public holidays, and calculation of annual holidays and holiday remuneration apply. Operative from October 15, 1951.)

No. 1734. The Flax and Hemp Wages Council (Great Britain) Wages Regulation (Amendment) (No. 2.) Order, 1951. Dated September 27. Made by Minister of Labour and National Service under Section 10, Wages Councils Act, 1945(c). *H.M.S.O.* 4*d*. (Revokes Order F.H.[68], and amends Order F.H.(66) by increasing statutory minimum remuneration payable. Operative from October 12, 1951.)

GENERAL

Report of the Committee on Night Baking. Issued by the Ministry of Labour and National service, October, 1951. (Cmd. 8378). *H.M.S.O.* 3*s*. (See also page 211.)

Ministry of Labour and National Service, Report for the Year 1950. Issued September, 1951. (Cmd. 8398.) *H.M.S.O.* 8*s*. (See also page 165 of our October issue.)

Higher Technological Education. Presented by the Chancellor of the Exchequer, Lord President of the Council, Minister of Education and Secretary of State for Scotland, September, 1951. (Cmd. 8357.) *H.M.S.O.* 3*d*.

The Foundry Industry. Choice of Careers. New Series No. 19. Issued by the Central Youth Employment Committee. *H.M.S.O.* 1*s*. 3*d*.

Foundry Craftsmen—The Moulder. Choice of Careers. New Series No. 20. Issued by the Central Youth Employment Committee. *H.M.S.O.* 9*d*.

Foundry Craftsmen—The Patternmaker. Choice of Careers. New Series No. 21. Issued by the Central Youth Employment Committee. *H.M.S.O.* 9*d*.

Tyres and Wheels—Removal, Assembly, Inflation. Warning Notice Factory Form 428. Issued by the Ministry of Labour and National Service, Factory Department, July, 1951. *H.M.S.O.* 9*d*.

Hydrofluoric Acid. Cautionary Notice. Factory Form 2250. Issued by the Ministry of Labour and National Service, Factory Department, June, 1951. *H.M.S.O.* 9*d*.

Electricity Regulations. Memorandum by the Senior Electrical Inspector of Factories. Factory Form 928. Fourth Edition, 1951. Issued by the Ministry of Labour and National Service, Factory Department, September, 1951. *H.M.S.O.* 3*s*.

Electrical Accidents and Their Causes, 1949. Factory Form 929. Issued by the Ministry of Labour and National Service, Factory Department, September, 1951. *H.M.S.O.* 2*s*. 6*d*.

Coal Mines (Explosives) Order, 1951. M.F.P. Circular 190. Issued by the Ministry of Fuel and Power, September 28, 1951. *H.M.S.O.* 3*d*.

Civil Defence. Manual of Basic Training. Vol. I. Pamphlet No. 3. Warden Section. Amendment No. 1. Issued by the Home Office, September, 1951. *H.M.S.O.* 2*d*.

Civil Defence. Manual of Basic Training. Vol. II. Pamphlet No. 1. Basic Chemical Warfare. Amendments No. 3. Issued by the Home Office, September, 1951. *H.M.S.O.* 3*d*.

The Principles of Natural Ventilation of Buildings. Building Research Station Digest. No. 34. Issued by the Building Research Station, September, 1951. *H.M.S.O.* 3*d*.

Manchester (Salford) Dock Strike, April-June, 1951. Report on certain aspects. Issued by the Ministry of Labour and National Service, October, 1951. *H.M.S.O.* 1*s*.

INDUSTRIAL COURT AWARDS

No. 2338. Government Industrial Establishments. Reference: Claim for substantial increase in rate of pay of male adult unskilled labourers. Award: Rate for male adult unskilled labourers in London are to be 114*s*. a week. (August 29, 1951.)

No. 2339. Electricity Supply Industry. Reference: Claim for increase of not less than 20 per cent in salaries of higher clerical, administrative and commercial staffs. Award: Salaries of staffs to be increased by £50 at all points. (September 17, 1951.)

INDUSTRIAL DISPUTES TRIBUNAL AWARDS

No. 4. Wage Rates of Certain Ambulance Drivers employed by the Gateshead Corporation. Claim: That Corporation should pay 4*s*. 11*d*. a week awarded by the National Joint Industrial Council for Local Authorities Non-Trading Services (Manual Workers) as from July, 1948. Award: Claim not established. (August 30, 1951.)

No. 5. Wage Rate of Certain Ambulance Drivers Employed by the Newcastle-upon-Tyne Corporation. Claim: That Corporation should pay 4*s*. 11*d*. a week awarded by the National Joint Industrial Council for Local Authorities Non-Trading Services (Manual Workers) as from July, 1948. Award: Claim not established. (August 30, 1951.)

No. 6. Wage Rates of Manual Workers Employed by Local Authorities in England and North Wales. Claim: For increases of 2*d*. per hour in basic rates of all grades covered by the National Council, with proportionate increases for women workers. Award: In favour of the claim, except that where existing rates are in excess of those agreed in April, 1949, such excess should be incorporated in the new increases. Exceptions to this award are workers employed in civic restaurants and school meals services, for whom Tribunal recommended further negotiations. (August 31, 1951.)

No. 7. Remuneration of Certain Part-Time Workers Employed in the School Meals Service of the Glasgow Corporation. Claim: For implementation of Agreement of the National Joint Industrial Council for Local Authority Services (Scotland) Manual Workers, dated December 1950, in respect of certain part-time workers. Award: Claim not established. (September 5, 1951.)

No. 8. Remuneration of Depot Managers Employed in Connection with Wholesale Meat Distribution in the North-west of England. Claim: For increased salary rates. Award: Claim not established. (September 6, 1951.)

No. 9. Rates of Wages of Clerical and Administrative Workers Employed in Connection with Wholesale Meat Distribution in the North-west of England. Claim: For increased salary rates. Tribunal awarded as follows: (a) Male clerks aged up to 17, 53*s*. per week; 18, 72*s*. 6*d*.; 19, 80*s*.; 20, 100*s*.; 21, 120*s*.; 22, 125*s*.; 23, 130*s*.; 24, 135*s*.; (b) Wages of supervisory or senior clerks to be £2 5*s*. per week. (c) Wages of female clerks to be 80 per cent of male rates. (d) Claims relating to assistant depot managers, checkweighmen and chief clerks found not established. (September 6, 1951.)

No. 10. Grading of Provincial Towns in the Lithographic Printing Trade in England and Wales. Claim: Dispute regarding grading of certain towns. Award: Tribunal awarded as follows: (a) Towns shall be classified in two grades. (b) Basis for grading an index figure for each town, calculated by adding together the population in thousands and the number of skilled journeymen in the town multiplied by 10. (c) Subject to (d) and (e) below, all towns with an index over 450 shall be Grade 1, under 450, Grade 2. (d) No town at present in Grade 1 shall be down-graded. (e) A town which has already been placed in Grade 1 in respect of letterpress and bookbinding sections shall retain that grade for the lithographic section. (September 10, 1951.)

No. 11 Rates of Wages of Certain Workers Employed by a Plastics Moulding Firm at Birmingham. Claim: That company had not implemented agreement of November 28, 1950. Award: Claim not established. (September 12, 1951.)

No. 12. Wage Rates of Certain Workers Employed in the Passenger Transport Department of the Liverpool Corporation. Claim: For payment of increase agreed in the electrical contracting industry as from April, 1951. Award: Claim not established. (September 12, 1951.)

No. 13. Remuneration of Scientific and Technical Staff Workers in the Engineering Industry. Claim: For specified rates and conditions. Award: Tribunal awarded the following minimum salary rates to workers within the scope of the "Procedure Agreement" of March, 1947.

Age	London	Provinces
21 years	£6 5*s*. 0*d*.	£6 0*s*. 0*d*. per week
22 years	£6 12*s*. 0*d*.	£6 7*s*. 6*d*. per week
23 years	£7 0*s*. 0*d*.	£6 15*s*. 0*d*. per week
24 years	£7 7*s*. 6*d*.	£7 2*s*. 6*d*. per week
25 years	£7 15*s*. 0*d*.	£7 10*s*. 0*d*. per week

The claims for a minimum of £400 to holders of university degrees, and £600 to corporate members of a chartered professional institution were found not established. (September 14, 1951.)

No. 14. Wage Rate of Certain Workers Employed by a Firm of Advertising Contractors in Glasgow. Claim: That billposters' wages be increased to £6 per week. Award: Tribunal found the claim as stated not established, but awarded that existing rates be increased to £5 15*s*. per week. (September 19, 1951.)

No. 15. Rates of Wages of Certain Workers Employed by the Coventry Corporation. Claim: That rates of manual workers be stabilised at 10*s*. a week above those agreed by the National Joint Council for Local Authorities' Services (Manual Workers). Award: In favour of workmen. (September 20, 1951.)

No. 16. Rates of Wages of Certain Workers Employed by the Coventry Corporation. (As Award No. 15.)

No. 17. Rates of Wages of Certain Workers Employed by the Coventry Corporation. (As Award No. 15.)

No. 18. Rates of Wages of Certain Workers

Employed by the Coventry Corporation. (As Award No. 15.)

No. 19. Overtime and Night Shift Allowances for Work Performed on Oil Carrying Vessels in Ship Repairing Yards in Bristol and the Bristol Channel District. Claim: For payment of overtime and night shift allowances. Award: Claim not established. (September 21, 1951.)

No. 20. Remuneration of Certain Clerical Staff Employed by a Road Passenger Transport Undertaking at Norwich. Claim: For premium payment of 2s 6d a week to clerical staff whose duties include working Saturday afternoons. Award: Claim not established. (September 21, 1951.)

No. 21. Claim for Overtime Payment to Certain Workers Employed by an Engineering Firm at Monifieth, Dundee. Claim: For specified payment to workers unable to complete overtime working owing to a lighting breakdown. Award: Claim not established. (September 25, 1951.)

No. 22. Wage Rates of Woollen Yarn Spinners in Stornoway. Claim: For increased wages. Award: Tribunal awarded an increase of 5 per cent on current minimum rates. (September 25, 1951.)

THE MONTH'S DATES

British Institute of Management

November

6 "Management and Work." Robert Appleby, London. 5.30 p.m.

15-18 Management Conference. Harrogate.

Carlisle and District Management Association

13 "Selection and Training Methods in Industry." J. A. Penman, M.A.

Chadwick Public Lectures Trust

6 "The Principles of Prevention of Industrial Deseases." A. T. Doig, M.D., D.P.H. Westminster Medical School, 17 Horseferry Road, London, S.W.1. 2.30 p.m.

Institute of Industrial Administration

8 "Problems of Office Management." O. W. Standingford. Management House, Hill Street, London, W.1. 7 p.m.

8 "Technicians in Management." Alperton, Middlesex. 7 p.m.

8 "Leadership in Industry." J. Munro Fraser. Norwich. 7.30 p.m.

9 "The Sense of Common Purpose." N. I. Bond-Williams. Cardiff. 7.15 p.m.

10 "The Law of the Situation and the Authority of the Job." J. A. Hunt. Cardiff. 7.15 p.m.

12 "Constructive Conflict and Integration." R. B. Simpson. 7.15 p.m.

13 "The Process of Control." E. F. L. Breech. Cardiff. 7.15 p.m.

14 "Industrial Medicine." T. A. Lloyd Davies. Leicester. 7 p.m.

14 "Production Engineering and Management." Wolverhampton. 7.30 p.m.

20 "Securing the Succession—a Board Problem." Sir Harold West. Sheffield. 6.30 p.m.

21 "Swiss Management Technique." W. H. Bower. Warrington. 7 p.m.

22 "Business Administration"—Film programme. Middlesbrough. 7.30 p.m.

28 "The Case of the Works Council." J. A. Stafford. Leicester. 7 p.m.

Industrial Welfare Society

5 "Welfare of the Worker." John Stamps. London. 6 p.m.

5 "Canteen Administration." Miss M. Moffitt. London. 6 p.m. (Course.)

7-9 "Apprenticeship Training." (Jointly with British Association for Commercial and Industrial Education.) London. Sir Arthur Fleming, Sir Ronald Nesbit-Hawes, etc.

7-9 "Trends in Apprenticeship Training." Ronald Ogden and James Jefferson. London.

8 "Problems of Office Management." O. W. Standingford. London. 7 p.m.

8 "Industrial and Factory Law." H. Samuels. London. 6 p.m. (Course.)

8 "How to Make Communications Really Effective." A. C. Leyton. London. 6 p.m. (Course.)

9-12 "The Foreman Wants to Know." Oulton Hall, Clacton. 8 p.m.

12 "Welfare of the Worker." John Stamps. London. 6 p.m.

12 "Canteen Administration." Miss D. Johnson. London. 6 p.m. (Course.)

13 "What We Are Doing in Our Company." (About Recruitment of Clerical and Supervisory Staff.) Miss D. Isherwood and K. S. Cooley. London. 2.30 p.m.

14 "Canteen Questions of the Day." London. 2.30 p.m.

15 "Industrial and Factory Law." H. Samuels. London. 6 p.m. (Course.)

15 "How to Make Communications Really Effective." A. C. Leyton. London. 6 p.m. (Course.)

19 "Personnel Management—Works and Office Executives." H. Roff. London. 6 p.m. (Course.)

22 "How to Make Communications More Effective." A. C. Leyton. London. 6 p.m. (Course.)

22 "Physical Working Conditions—Works and Office Executives and Welfare Officers." H. C. Weston. London. 6 p.m. (Course.)

25-26 "Professional Standards in Industrial Catering." Grange-over-Sands.

26 "Personnel Management—Works and Office Executives." H. Roff. London. 6 p.m. (Course.)

28 "Pensions and Benevolent Schemes." London. 10 a.m.

29 "How to Make Communications Really Effective." A. C. Leyton. London. 6 p.m. (Course.)

29 "Physical Working Conditions—Works and Office Executives and Welfare Officers." R. F. Wilson. London. 6 p.m. (Course.)

Institute of Industrial Supervisors

7 "Shop Management's Contribution to Increased Efficiency." Prof. J. R. Immer. College of Technology, Suffolk Street, Birmingham. 7.30 p.m.

8 Industrial Film Show. Recreation Hall, W. D. & H. O. Wills, Bedminster, Bristol. 7.30 p.m.

8 "Motion Study on the Shop Floor." T. Gardiner. 7.30 p.m.

8 "The Foreman and the Factories Acts." Miss J. B. Hopgood. Technical College, Hyde. 7.30 p.m.

8 "Costing and Shop Supervision." W. J. H. Tanner. Canteen, Thompson Bros. (Bilston) Ltd. 7.30 p.m.

12 "Methods Improvement and the Foreman." F. J. Burns Morton. Canteen, Brush Electric Works, Loughborough. 7.30 p.m.

12 "Managerial Responsibilities of the Supervisor." J. A. Hunt. Canteen, Accles and Pollock Ltd., Oldbury. 7.30 p.m.

15 "Incentives." R. N. Marland, B.Sc. Craven Arms Hotel, High Street, Coventry. 7.30 p.m.

15 "The Worker's Attitude to his Job." Miss M. F. Robertson, M.A. County Technical College, Newark. 7.30 p.m.

19 "Publicity and Works Information." H. R. Viner. Dudley and Staffordshire Technical College, Dudley. 7.30 p.m.

20 "The Foreman and the Factories Acts." R. Bramley Harker. Technical School, Redditch. 7.30 p.m.

20 "Communications and English Expression." B. Latham, B.Com. Canteen, Carpet Trades Ltd., Mill Street, Kidderminster. 7.30 p.m.

21 "Welfare—Safety and Supervision." I. E. Baggs. Grand Hotel, Bristol. 7.30 p.m.

21 "A Production Manager's View on Safety." T. A. Mason. Unity Hall, Greek Street, Stockport. 8 p.m.

22 Industrial Film Show. Windmill Hotel, Blossom Street, York. 7.30 p.m.

22 "Time Study in Practice." W. E. Bradshaw. Canteen, Kayser Bondor Ltd., Merthyr Tydfil. 7 p.m.

22 "Some Aspects of Foremanship in U.S.A." B. E. Stokes. Canteen, F. H. Lloyd and Co. Ltd. 7.30 p.m.

26 "Leadership on the Shop Floor." Lt.-Col. R. A. C. Radcliffe. Canteen, Guest, Keen and Nettlefolds (Midlands) Ltd., Smethwick. 7.30 p.m.

27 "The Foreman—Can He be Human and Successful?" Neville Whittaker. College of Technology, The Newarke, Leicester. 7.30 p.m.

29 "The Managerial Responsibilities of the Supervisor." J. A. Hunt. Canteen, Accles and Pollock Ltd., Oldbury. 7.30 p.m.

29 "Industrial Organisation from Craft to Trust." A. Jeffries, B.A. Royal Technical College, Glasgow. 7.30 p.m.

29 "Foremanship Today and Tomorrow." J. R. Bergne-Coupland. Welbeck Hotel, Nottingham. 7.30 p.m.

29 "The Cost Department and Supervision." Rotherham Technical College. 7.30 p.m.

Institute of Industrial Technicians

6 "Work Study and Statistics." G. J. Mepham, B.A. Manchester. 7.15 p.m.

15 "Application of Work Study and Incentives to Non-Repetitive Work." R. M. Currie. Birmingham Chamber of Commerce. 7.15 p.m.

Institute of Personnel Management

4-9 "Employment and Welfare." Worcestershire Brine Baths Hotel, Droitwich.

19 "The Functions of the Youth Employment Service." A. V. Ebdon. Edinburgh. 7.30 p.m.

19 "Experiences of Hosiery Delegates in U.S.A." Leicester. 6.30 p.m.

28 "Legal Points of Importance to the Personnel Manager." Leeds. 6.30 p.m.

Institution of Heating and Ventilating Engineers.

29 "Air Conditioning in Textile Factories." A. L. Longworth, B.Sc. Institute of Mining and Mechanical Engineers, Newcastle-upon-Tyne. 6.30 p.m.

27 "Pneumatic Conveying and Dust Exhausting." Engineering Centre, 351 Sauchiehall Street, Glasgow, C.2. 6.30 p.m.

Institution of Production Engineers

5 "Mechanical Handling"—Colour film show. Electricity Showrooms, Whitechapel, Liverpool. 7.30 p.m.

6 "Mechanical Handling." F. T. Dean. Great Western Hotel, Reading. 7.15 p.m.

7 "Accident Prevention." C. P. Gourley. North Western Gas Board, Radiant House, Bold Street, Liverpool. 7.15 p.m.

8 "Mechanical Handling in Industry and its Influence on Costs." W. J. T. Dimmock. Rotary Room, Sun Hotel, Chatham. 7.30 p.m.

28 "Time and Work Studies with Particular Reference to Heavy Industry." J. R. Widdowson. Blue Bell Hotel, Scunthorpe. 7.30 p.m.

Institution of Works Managers

6 "Operator Training—Hosiery Industry." F. Baxter. College of Technology, The Newarke, Leicester. 7 p.m.

8 "Personnel Seeding as an Aid to Management." A. McDonald. The Plough, Kenton Road, Kenton, Middlesex. 12.30 p.m.

8 "Factory Discipline." J. Ayres. Royal Hotel, Bristol. 7.15 p.m.

13 "Some Impressions Relative to Works Management Obtained as Leader of British Non-ferrous Metals Anglo-American Productivity Council Team." W. F. Brazener. Grand Hotel, Birmingham. 7 p.m.

13 Brains Trust. Adelphi Hotel, Liverpool. 6.30 p.m.

20 "Communications and Industrial Relations." A. C. Leyton. Thos. White and Sons Ltd., Paisley. 7.15 p.m.

26 "Spoken Communications in Industry." A. C. Leyton. Institution of Engineers and Shipbuilders, 39 Elmbank Crescent, Glasgow, C.2. 7.15 p.m.

National Institute of Industrial Psychology

6-7 Course for Supervisors. Cardiff.

6 Industrial Lecture. Park Hotel, Cardiff. 6.30 p.m.

8-9 Course for Supervisors (Production). Bristol.

8 Vocational Guidance Lecture. Grand Hotel, Bristol. 6.30 p.m.

19-23 Course for Management Trainees. (Pt. 1.) London.

26-27 Course for Supervisors. Sheffield.

28-29 Course for Supervisors. Nottingham.

30 General Conference. Derby.

30 General Conference. Leicester.

Pendley Manor

12-17 Foreman's Course.

Urchfont Manor

4-9 "Teamwork in Industry."

NAPT

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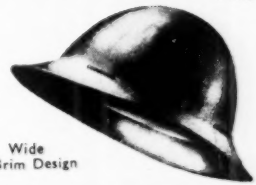

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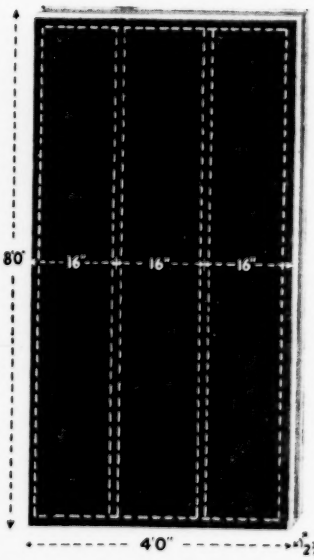

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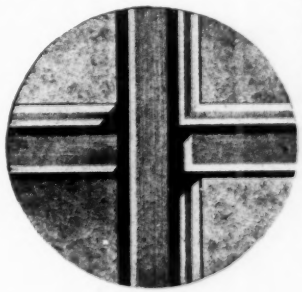

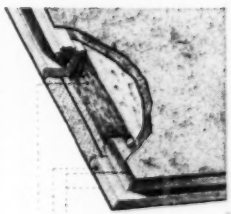

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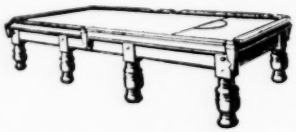

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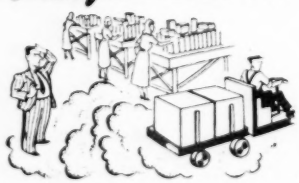

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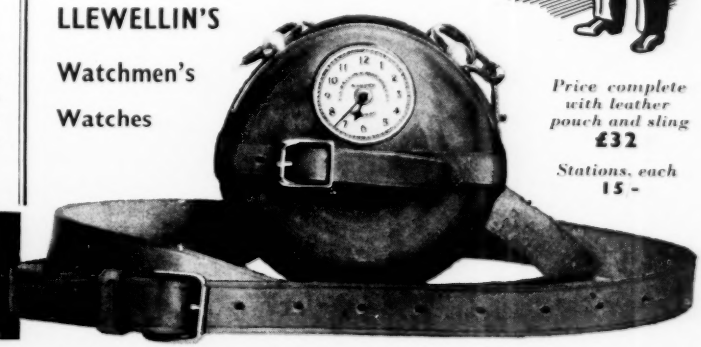

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